

TEST REPORT

Report Number: 14982484 - E20V2

Applicant : APPLE, INC
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

Model : A3081

Brand : APPLE

FCC ID : BCG-E8688A

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR Part 2, Part 22, and Part 27

Date Of Issue:
2024-07-31

Prepared by:
UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538, U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888



Revision History

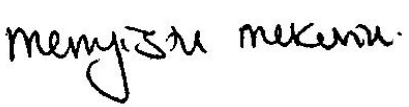
Rev.	Issue Date	Revisions	Revised By
V1	2024-07-03	Initial Review	Mengistu Mekuria
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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE, INC 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.	
Model	A3081	
Brand	APPLE	
FCC ID	BCG-E8688A	
EUT Description	SMARTPHONE	
Serial Number	W0QPLWTPXT, C07H450007Y0000FGR, C07H5V000PZ0000FGR (Conducted) and YCD77JQN20, L6YHHL2R7XF, G5VJH9QNYW (Radiated)	
Sample Receipt Date	2023-11-15	
Date Tested	2023-11-15 to 2024-06-14	
Applicable Standards	FCC CFR 47 Part 2, Part 22, and Part 27	
Test Results	COMPLIES	
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.		
Approved & Released By:	Reviewed By:	Prepared By:
		
Mengistu Mekuria Staff Engineer UL Verification Services Inc.	Tewodros Woldemicael Laboratory Engineer UL Verification Services Inc.	Binod Sitaula Laboratory Engineer Associate UL Verification Services Inc.

2. SUMMARY OF TEST RESULTS

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for correctly integrating customer-provided data with measurements performed by UL Verification Services Inc.

Below is a list of the data provided by the customer:

1. Antenna gain (see section 6.4.)

Requirement Description	Requirement Clause Number (FCC)	Result	Remarks
RF Conducted Output Power	2.1046	Complies	
Effective Radiated Power	22.913 (a)(5)	Complies	
Equivalent Isotropic Radiated power	27.50 (h) (2)	Complies	
Occupied Bandwidth	2.1049	Complies	
Band Edge and Emission Mask	2.1051, 22.917 (a), 27.53 (m)(4) &(m)(6)	Complies	
Out of Band Emissions	2.1051, 22.917 (a), 27.53 (m)(4) &(m)(6)	Complies	
Frequency Stability	2.1055, 22.355, 27.54	Complies	
Peak-to-Average Ratio	27.50 (d) (5), 22.913(a)	Complies	
Field Strength of Spurious Radiation	2.1053, 22.917 (a), 27.53 (m)(4) &(m)(6)	Complies	

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with the following:

- ANSI C63.26:2015
- FCC 47 CFR Part 2, Part 22, and Part 27
- [FCC KDB 971168 D01 v03r01](#): Power Meas License Digital Systems
- [FCC KDB 971168 D02 v02r01](#): Misc Rev Approv License Devices
- [FCC KDB 412172 D01 v01r01](#): Determining ERP and EIRP

4. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
☒	Building 3: 843 Auburn Court, Fremont, CA 94538, USA			
☐	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
☒	Building 5: 47670 Kato Rd, Fremont, CA 94538, USA			

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U _{Lab}
Conducted Antenna Port Emission Measurement	1.940
Power Spectral Density	2.466
Time Domain Measurements Using SA	3.39
RF Power Measurement Direct Method Using Power Meter	0.450 Peak; 1.300 Ave.
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 db
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 db
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 db
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 db
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 db
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 db
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 db

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5G NR1, 5G NR2, IEEE 802.11a/b/g/n/ac/ax/be, Bluetooth (BT), Ultra-Wideband (UWB), Global Positioning System (GPS), Near-Field Communication (NFC), Narrow-Band (NB) UNII, 802.15.4, 802.15.4ab-Narrow Band (NB), WPT and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible. This device is not user-serviceable and requires special tools to disassemble.

6.2. MAXIMUM OUTPUT POWER

ERP/EIRP TEST PROCEDURE

ANSI C63.26:2015
KDB 971168 D01 Section 5.6

$$\text{ERP/EIRP} = \text{PMeas} + \text{GT} - \text{LC}$$

where: ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

PMeas = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted and ERP/EIRP output powers as follows:

OUTPUT POWER FOR LTE BAND 5

Part 22H								
EIRP Limit (W)		7.00						
Antenna Gain (dBi)_(Ant1)		-4.60						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	ERP Average (dBm)	ERP Average (W)	99% BW (kHz)	Emission Designator
3+5	QPSK	825.5	846.5	25.70	18.95	0.079	7518	7M52G7W
	16QAM			25.70	18.95	0.079	7525	7M53D7W
5+3	QPSK	826.5	847.5	25.70	18.95	0.079	7509	7M51G7W
	16QAM			25.70	18.95	0.079	7509	7M51D7W
5+10	QPSK	826.5	844.0	25.70	18.95	0.079	13870	13M9G7W
	16QAM			24.70	17.95	0.062	13867	13M9D7W
10+5	QPSK	829.0	846.5	25.70	18.95	0.079	13869	13M9G7W
	16QAM			24.70	17.95	0.062	13872	13M9D7W
10+10	QPSK	829.0	844.0	25.70	18.95	0.079	18755	18M8G7W
	16QAM			24.70	17.95	0.062	18763	18M8D7W

OUTPUT POWER FOR LTE BAND 7

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)_(Ant2)		0.70						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
10+20	QPSK	2505.5	2560.0	23.70	24.40	0.275	28176	28M2G7W
	16QAM			22.70	23.40	0.219	28201	28M2D7W
20+10	QPSK	2510.0	2564.5	23.70	24.40	0.275	28191	28M2G7W
	16QAM			22.70	23.40	0.219	28153	28M2D7W
15+15	QPSK	2507.5	2562.5	23.70	24.40	0.275	28816	28M8G7W
	16QAM			22.70	23.40	0.219	28726	28M7D7W
15+20	QPSK	2507.8	2560.0	23.70	24.40	0.275	32965	33M0G7W
	16QAM			22.70	23.40	0.219	32979	33M0D7W
20+15	QPSK	2510.0	2562.2	23.70	24.40	0.275	32970	33M0G7W
	16QAM			22.70	23.40	0.219	32985	33M0D7W
20+20	QPSK	2510.0	2560.0	23.70	24.40	0.275	37854	37M9G7W
	16QAM			22.70	23.40	0.219	37803	37M8D7W

OUTPUT POWER FOR LTE BAND 41

Part 27								
EIRP Limit (W)		2.00						
Antenna Gain (dBi)_Ant(2)		0.00						
Bandwidth (MHz)	Modulation	Low Frequency (MHz)	Upper Frequency (MHz)	Conducted Average (dBm)	EIRP Average (dBm)	EIRP Average (W)	99% BW (kHz)	Emission Designator
5+20	QPSK	2499.3	2680.0	28.70	28.70	0.741	23306	23M3G7W
	16QAM			27.20	27.20	0.525	23326	23M3D7W
20+5	QPSK	2506.0	2686.7	28.70	28.70	0.741	23392	23M4G7W
	16QAM			27.20	27.20	0.525	23273	23M3D7W
10+20	QPSK	2501.5	2680.0	28.70	28.70	0.741	28079	28M1G7W
	16QAM			27.20	27.20	0.525	27985	28M0D7W
20+10	QPSK	2506.0	2684.5	28.70	28.70	0.741	27977	28M0G7W
	16QAM			27.20	27.20	0.525	28080	28M1D7W
15+15	QPSK	2503.5	2682.5	28.70	28.70	0.741	28632	28M6G7W
	16QAM			27.20	27.20	0.525	28634	28M6D7W
15+20	QPSK	2503.8	2680.0	28.70	28.70	0.741	32850	32M9G7W
	16QAM			27.20	27.20	0.525	32805	32M8D7W
20+15	QPSK	2506.0	2682.2	28.70	28.70	0.741	32845	32M8G7W
	16QAM			27.20	27.20	0.525	32899	32M9D7W
20+20	QPSK	2506.0	2680.0	28.70	28.70	0.741	37733	37M7G7W
	16QAM			27.20	27.20	0.525	37632	37M6D7W

6.3. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was version: 0.02.01.

6.4. MAXIMUM ANTENNA GAIN

The antenna(s) gain(s) and type, as provided by the manufacturer' are as follows:

LTE and 5G NR Bands	Frequency Range (MHz)	ANT 1 Antenna Gain (dBi)	ANT 2 Antenna Gain (dBi)	ANT 3 Antenna Gain (dBi)	ANT 4 Antenna Gain (dBi)	ANT 7 Antenna Gain (dBi)	ANT 8 Antenna Gain (dBi)	ANT 9 Antenna Gain (dBi)
LTE Band 5, 5G NR n5	824 – 849	-4.6	-5.6					
LTE Band 7, 5G NR n7	2500 – 2570	-2.8	0.7	-1.6	0.8			
LTE Band 41, 5G NR n41	2496 – 2690	-3.0	0.0	-2.7	0.4			

6.5. WORST-CASE CONFIGURATION AND MODE

The EUT supports LTE dual carrier Bands of: Band 5, Band 7, and Band 41.

The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM and 64QAM modulations. It was found that QPSK and 16QAM results were worst case. All testing was performed using QPSK and 16QAM modulations to represent the worst case. For testing purposes emissions on sections 8 and 9 were measured while QPSK was set at or above target power for all bands. Conducted tests were performed on the worst-case antenna port because it has the highest conducted power. The worst-case antenna port is shown in the table below.

LTE Bands	Worst case Antenna Port for Conducted Power
LTE BAND 5, 7, and 41	Ant 1

For Band Edge and Emission Mask: The highest BW combo and sample lower BW combinations were tested. Combination pairs of the same BW are considered generally equivalent. The RB combinations were selected such that the signal is active closest to the band limit, as this is the worst case.

For Out of Band Emissions: The highest combination and a sample lower combination was tested. The highest power RB combination was selected as worst case.

The EUT was investigated in three orthogonal orientations X/Y/Z on all ANT 1, ANT2, ANT3, and ANT4 antennas to determine the worst-case orientation. The following table exhibit the worst-case orientation for different frequency bands. The full tests of the EUT have made upon the orientations that shown in the table below.

Frequency Bands	ANT1	ANT2	ANT3	ANT4	ANT7	ANT8	ANT9
663 – 849 MHz	Z	Z	N/A	N/A	N/A	N/A	N/A
2300 – 2700 MHz	X	X	Y	Y	N/A	N/A	N/A

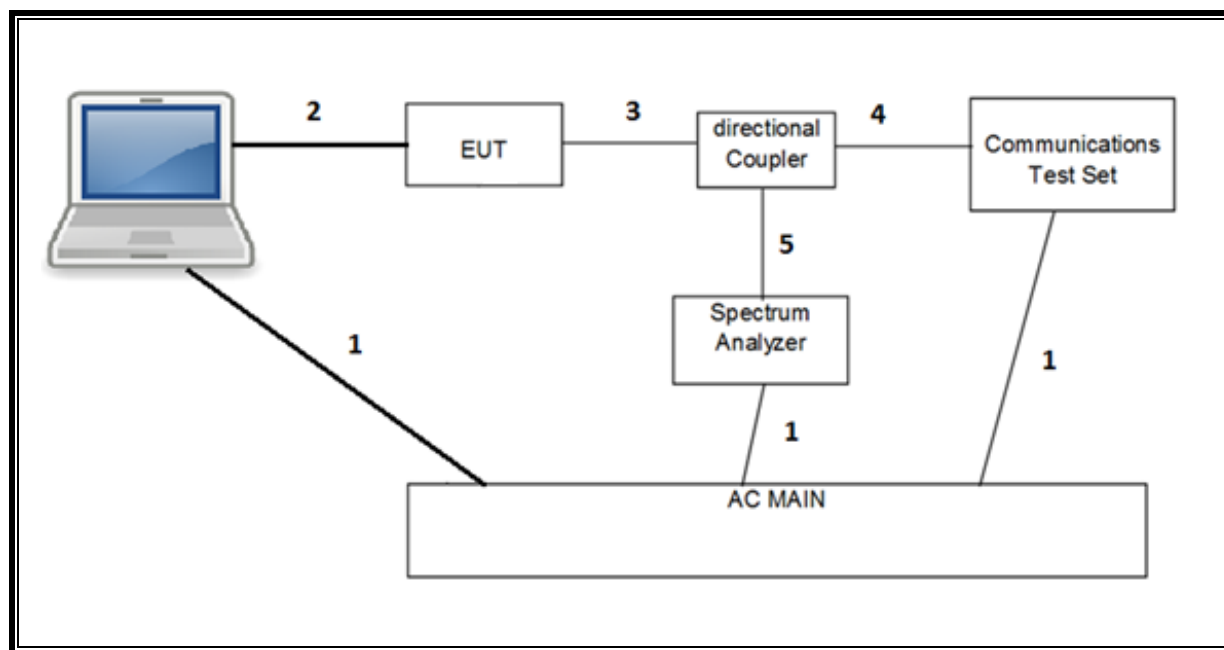
Radiated spurious emissions were investigated from 9kHz to 30MHz, 30MHz-1GHz and above 1GHz. There were no emissions found with less than 20dB of margin from 9kHz to 1GHz.

For interband transmission of multiple channels in Ant 1 and Ant 2 in Cellular bands, tests were conducted for various configurations having the highest power, least separation in frequencies and widest operation bandwidths. No noticeable new emission was found.

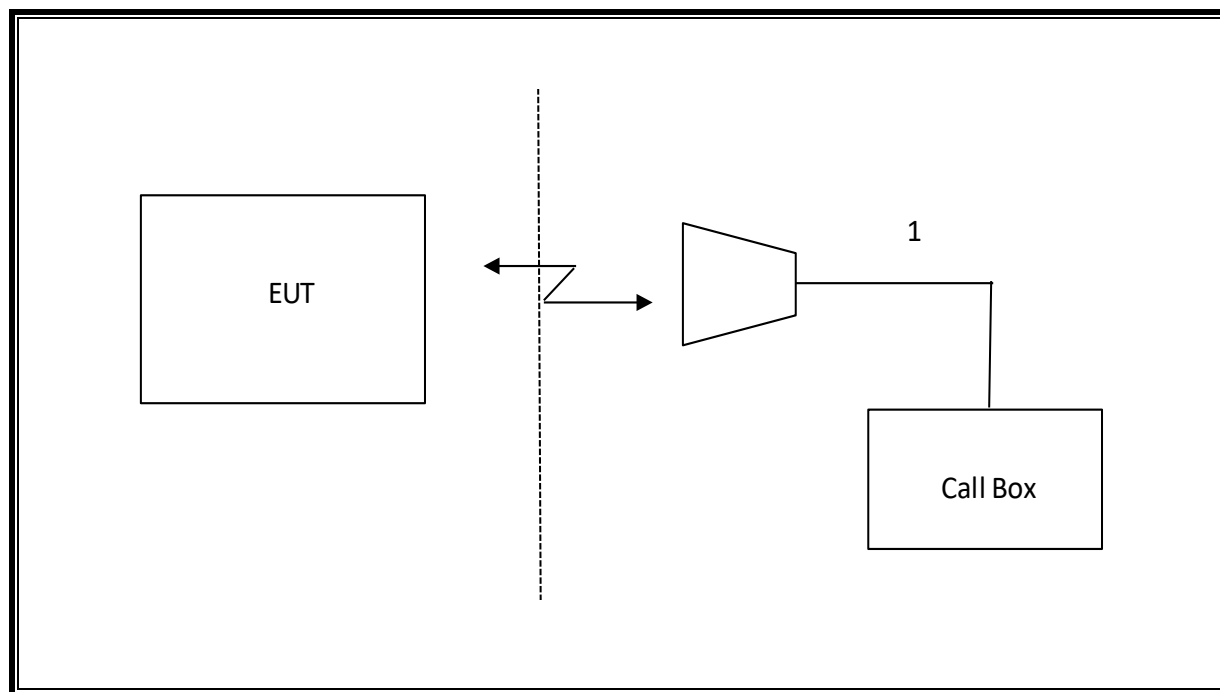
6.6. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description		Manufacturer	Model	Serial Number		FCC ID/ DoC
Laptop		Apple	MacBook Pro	HRP082673		BCGA1708
AC/DC adapter		Apple	A1718	C4H64450HH3GN8RA6		--
I/O CABLES (RF CONDUCTED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC	3	US 115V	Un-shielded	2.0	N/A
2	USB	1	DC	Un-shielded	1.0	N/A
3	RF In/Out	1	EUT	Un-shielded	0.6	N/A
4	RF In/Out	1	Communication Test Set	Un-shielded	1.2	N/A
5	RF In/Out	1	Barrel	N/A	N/A	N/A
I/O CABLES (RF RADIATED TEST)						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	RF In/Out	1	Antenna	Un-shielded	5.0	N/A

CONDUCTED SETUP



RADIATED SETUP



7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	80430	2024-08-31
Antenna, Horn 1-18GHz	ETS Lindgren	3117	79834	2024-06-30
Antenna, Broadband Hybrid, 30MHz to 3000MHz	SUNAR	JB3	222009	2024-10-31
RF Filter Box, 1-18GHz	UL-FR1	NA	217255	2024-10-31
RF Filter Box, 1-18GHz	UL-FR1	RATS 2	226781	2024-09-30
Amplifier, 10KHz to 1GHz, 32dB	Sonoma	310N	430250	2024-09-30
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169936	2025-02-28
EMI TEST RECEIVER	Rohde & Schwarz	ESW44	169935	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	85943	2025-02-28
Directional Coupler	KRYTAR	152610	198816	2024-10-31
Directional Coupler	KRYTAR	152610	231664	2025-01-22
Power Meter, P-series single channel	Keysight	N1912A	90719	2025-01-31
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight	N1921A	81319	2025-01-31
Filter, HPF 1.2GHz	Wainwright Instruments GmbH	WHKX6-948-1.2/15G-40ST	99	2024-10-31
Spectrum Analyzer, PXA, 2Hz to 44GHz	Keysight	N9030B	231739	2025-01-31
Spectrum Analyzer, PXA, 2Hz to 44GHz	Keysight	N9030B	245120	2025-02-28
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight	N9030A	85212	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	222793	2025-02-28
Wideband Communication Test Set, Call Box	R&S GmbH & Co. KG	CMW500	222797	2025-02-28
Chamber, Environmental	Thermotron Corp.	SM-16C Mini-Max	179936	2024-06-30
Transmitting Antenna, Horn Antenna	TEKBOX Digital Solutions	TBMA4	226709	C.N.R.
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	199659	2024-12-31
*Amplifier 18-26.5GHz, +5Vdc, -54dBm P1dB	AMPLICAL	AMP18G26.5-60	234683	2024-03-29
DC Power Supply	GWINSTEK	GPS18500	N/A	C.N.R.
UL AUTOMATION SOFTWARE				
CLT Software	UL	UL RF	V2023.11.21.0	
Power Measurement Software	UL	UL RF	V2023.08.14.0	
Radiated test software	UL	UL RF	Ver 9.5 2023-05-01	

NOTES:

- * Testing is completed before equipment expiration date.
- ** Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

8. RF OUTPUT POWER MEASUREMENTS

RULE PART(S)

FCC: §2.1046, §22.913, §27.50

RESULT

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted output powers as follows:

8.1. RF OUTPUT POWER

8.1.1. LTE BAND 5

Test Engineer ID:	25780	Test Date:	11/29/2023
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OUTPUT POWER FOR LTE BAND 5 (3.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	Conducted Average (dBm)											
			PCC RB				SCC1 RB				ANT 1			
			Size	Offset	Size	Offset	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
3MHz / 5MHz	825.5	829.4	1	14	1	0	25.57	25.58	24.70	23.70	25.20	24.90	24.05	23.17
			15	0	25	0	25.70	25.70	24.68	23.66	24.94	24.66	23.68	22.72
	834.0	837.9	1	14	1	0	25.60	25.64	24.68	23.66	25.11	24.89	23.76	22.62
			15	0	25	0	25.70	25.67	24.70	23.70	25.20	25.20	24.20	23.20
	842.5	846.5	1	14	1	0	25.61	25.70	24.70	23.70	24.96	24.58	23.66	22.76
			15	0	25	0	25.70	25.39	24.36	23.36	25.20	24.69	23.65	22.64

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 3.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	Conducted Average (dBm)											
			PCC RB				SCC1 RB				ANT 1			
			Size	Offset	Size	Offset	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
5MHz / 3MHz	826.5	830.4	1	24	1	0	25.60	25.68	24.70	23.70	25.20	25.20	24.20	23.20
			25	0	15	0	25.70	25.70	24.61	23.67	24.89	24.72	23.57	22.53
	835.0	838.9	1	24	1	0	25.61	25.56	24.53	23.54	25.14	24.56	23.46	22.31
			25	0	15	0	25.70	25.62	24.60	23.63	25.20	25.20	24.20	23.20
	843.6	847.5	1	24	1	0	25.57	25.70	24.70	23.70	25.07	25.05	24.20	23.12
			25	0	15	0	25.70	25.38	24.35	23.29	25.20	25.04	23.99	23.00

OUTPUT POWER FOR LTE BAND 5 (5.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	Conducted Average (dBm)											
			PCC RB				SCC1 RB				ANT 1			
			Size	Offset	Size	Offset	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
5MHz / 10MHz	826.5	833.7	1	24	1	0	25.67	24.66	23.68	20.60	25.19	24.14	23.16	20.19
			25	0	50	0	23.70	22.62	22.69	20.68	23.20	22.20	22.20	20.20
	831.6	838.8	1	24	1	0	25.69	24.65	23.68	20.58	25.20	24.20	23.20	20.13
			25	0	50	0	23.70	22.61	22.69	20.70	23.19	22.20	22.17	20.18
	836.8	844.0	1	24	1	0	25.70	24.70	23.70	20.62	25.17	24.14	23.15	20.14
			25	0	50	0	23.69	22.64	22.69	20.69	23.18	22.17	22.14	20.18

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	Conducted Average (dBm)											
			PCC RB				SCC1 RB				ANT 1			
			Size	Offset	Size	Offset	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
10MHz/ 5MHz	829.0	836.2	1	49	1	0	25.69	24.68	23.70	20.60	25.20	24.20	23.20	20.13
			50	0	25	0	23.68	22.67	22.70	20.70	23.20	22.20	22.20	20.20
	834.3	841.5	1	49	1	0	25.68	24.70	23.63	20.57	25.17	24.19	23.14	20.14
			50	0	25	0	23.70	22.68	22.68	20.69	23.14	22.14	21.60	20.16
	839.3	846.5	1	49	1	0	25.70	24.64	23.68	20.53	25.08	24.10	22.99	20.02
			50	0	25	0	23.70	22.70	22.67	20.69	23.09	22.19	21.65	20.14

OUTPUT POWER FOR LTE BAND 5 (10.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	Conducted Average (dBm)											
			PCC RB				SCC1 RB				ANT 1			
			Size	Offset	Size	Offset	Size	Offset	Size	Offset	QPSK	16QAM	64QAM	256QAM
10MHz/ 10MHz	829.0	838.9	1	49	1	0	25.68	24.55	23.70	20.50	25.18	24.05	23.20	20.00
			1	0	1	49	15.10	15.17	15.20	15.09	14.70	14.67	14.70	14.59
			50	0	50	0	23.48	22.67	22.70	20.66	23.20	22.20	22.17	20.16
			1	49	1	0	25.66	24.60	23.68	20.59	25.16	24.10	23.18	20.09
	831.5	841.4	1	0	1	49	15.20	15.20	15.18	15.10	14.68	14.70	14.68	14.60
			50	0	50	0	23.58	22.70	22.67	20.70	23.18	22.20	22.15	20.20
			1	49	1	0	25.70	24.70	23.70	20.51	25.20	24.20	23.20	20.01
			1	0	1	49	15.00	15.17	15.20	15.12	14.68	14.67	14.70	14.62
	834.1	844.0	50	0	50	0	23.70	22.70	22.69	20.68	23.19	22.18	22.16	20.18

8.1.2. LTE BAND 7

Test Engineer ID:	25780	Test Date:	12/18/2023
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OUTPUT POWER FOR LTE BAND 7 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)											
							ANT 1				ANT 2				ANT 3			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	2505.5	2519.9	1	49	1	0	25.70	24.65	23.69	20.64	23.65	22.70	21.70	18.65	24.75	23.68	23.00	19.69
			50	0	100	0	23.66	22.70	22.68	20.70	21.69	20.70	20.65	18.70	22.64	21.61	21.96	19.67
	2525.6	2540.0	1	49	1	0	25.65	24.70	23.70	20.67	23.70	22.67	21.53	18.65	24.31	23.27	22.41	19.28
			50	0	100	0	23.67	22.70	22.70	20.68	21.69	20.70	20.68	18.70	22.45	21.45	21.79	19.49
	2545.6	2560.0	1	49	1	0	25.64	24.67	22.72	20.61	23.55	22.63	21.68	18.54	25.00	24.00	22.32	20.00
			50	0	100	0	23.70	22.68	22.69	20.65	21.62	20.62	20.70	18.62	22.97	21.95	21.90	20.00

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)											
							ANT 1				ANT 2				ANT 3			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2510.0	2524.4	1	99	1	0	25.64	24.56	23.66	20.49	23.70	22.64	21.30	18.52	24.19	23.23	22.98	19.16
			100	0	50	0	23.40	22.70	22.67	20.68	21.68	20.70	20.69	18.70	22.48	21.57	21.88	19.49
	2530.1	2544.5	1	99	1	0	25.64	24.65	23.70	20.56	23.69	22.70	21.70	18.47	24.42	23.42	22.73	19.43
			100	0	50	0	23.70	22.70	22.70	20.70	21.67	20.70	20.68	18.67	22.55	21.67	21.97	19.58
	2550.1	2564.5	1	99	1	0	25.70	24.70	23.06	20.60	23.61	22.56	20.94	18.46	25.00	24.00	23.00	19.92
			100	0	50	0	23.50	22.68	22.67	20.69	21.68	20.67	20.70	18.57	22.97	21.80	22.00	20.00

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)											
							ANT 1				ANT 2				ANT 3			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	2507.5	2522.5	1	74	1	0	25.59	24.62	23.25	20.57	23.62	21.71	21.42	18.67	24.93	23.97	22.29	19.87
			75	0	75	0	23.69	22.70	22.70	20.66	21.67	20.31	20.70	18.53	22.98	22.00	21.50	19.93
	2527.5	2542.5	1	74	1	0	25.70	24.70	23.51	20.56	23.70	22.70	21.54	18.70	24.92	23.97	22.93	19.79
			75	0	75	0	23.68	22.70	22.66	20.70	21.70	20.27	20.31	18.51	22.99	21.96	22.00	19.96
	2547.5	2562.5	1	74	1	0	25.68	24.43	23.19	20.70	23.46	22.23	21.63	18.70	25.00	24.00	23.00	19.90
			75	0	75	0	23.70	22.68	22.57	20.68	21.70	20.25	20.30	18.49	23.00	21.92	21.97	20.00

OUTPUT POWER FOR LTE BAND 7 (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)											
							ANT 1				ANT 2				ANT 3			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 20MHz	2507.8	2524.9	1	74	1	0	25.68	24.65	23.70	20.61	23.66	22.70	21.43	18.64	24.51	23.51	23.00	19.55
			75	0	100	0	23.60	22.70	22.70	20.70	21.70	20.69	20.70	18.70	22.65	21.68	21.88	19.64
	2525.3	2542.4	1	74	1	0	25.70	24.69	23.68	20.70	23.70	22.70	21.70	18.63	24.32	23.39	22.82	19.37
			75	0	100	0	23.70	22.70	22.67	20.68	21.69	20.69	20.65	18.66	22.56	21.56	21.72	19.56
	2542.9	2560.0	1	74	1	0	25.68	24.70	22.98	20.59	23.61	22.64	21.64	18.48	25.00	24.00	23.00	19.96
			75	0	100	0	23.40	22.69	22.67	20.69	21.70	20.64	20.61	18.62	22.95	21.98	22.00	20.00

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)											
							ANT 1				ANT 2				ANT 3			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	2510.0	2527.1	1	99	1	0	25.68	24.70	23.70	20.54	23.70	22.70	21.70	18.62	24.26	23.24	23.00	19.25
			100	0	75	0	23.70	22.70	22.70	20.70	21.70	20.65	20.69	18.67	22.48	21.61	21.65	19.56
	2527.6	2544.7	1	99	1	0	25.70	24.65	23.68	20.50	23.69	22.63	21.70	18.55	24.43	23.36	22.57	19.41
			100	0	75	0	23.69	22.67	22.66	20.66	20.77	20.70	20.70	18.70	22.53	21.65	21.72	19.62
	2545.1	2562.2	1	99	1	0	25.67	24.61	22.89	20.53	23.68	22.59	21.60	18.17	25.00	24.00	23.00	19.98
			100	0	75	0	23.68	22.63	22.66	20.64	20.77	20.69	20.65	18.61	22.90	22.00	22.00	20.00

OUTPUT POWER FOR LTE BAND 7 (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)											
							ANT 1				ANT 2				ANT 3			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 20MHz	2510.0	2529.8	1	99	1	0	25.70	24.66	23.70	20.52	23.70	22.70	20.92	18.70	24.39	23.33	22.25	19.31
			100	0	100	0	23.70	22.70	22.68	20.70	21.70	20.70	20.68	18.66	22.67	21.71	22.00	19.67
	2525.1	2544.9	1	99	1	0	25.69	24.70	23.69	20.55	23.45	22.61	21.70	18.60	24.44	23.41	23.00	19.43
			100	0	100	0	23.70	22.70	22.68	20.67	21.70	20.70	20.68	18.66	22.66	21.73	22.00	19.71
	2540.2	2560.0	1	99	1	0	25.63	24.63	22.97	20.56	23.66	22.67	21.26	18.42	25.00	24.00	22.61	20.00
			100	0	100	0	23.70	22.70	22.60	20.69	21.69	20.67	20.70	18.61	22.92	22.00	22.00	20.00

8.1.3. LTE BAND 41

Test Engineer ID:	28774	Test Date:	1/312023
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OUTPUT POWER FOR LTE BAND 41 (5.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
5MHz / 20MHz	2499.3	2511.0	1	24	1	0	22.57	22.70	22.54	22.52	22.95	23.00	22.93	22.90	21.11	21.20	21.15	21.11	20.79	21.30	21.26	21.30
			25	0	100	0	22.70	22.64	22.67	22.64	23.00	22.97	22.95	22.98	21.16	21.17	21.18	21.20	21.27	20.67	20.91	21.30
	2583.8	2595.5	1	24	1	0	28.70	27.20	26.70	23.67	28.70	27.20	26.70	23.70	28.00	26.50	26.00	23.00	27.70	26.13	25.70	22.70
			25	0	100	0	26.70	25.49	25.67	23.67	26.70	24.71	24.74	22.62	26.00	24.65	24.71	22.69	25.70	24.84	24.64	21.91
	2668.3	2680.0	1	24	1	0	27.70	26.20	25.70	22.61	28.00	26.50	26.00	23.00	27.00	25.50	24.98	21.98	26.30	24.80	24.30	21.30
			25	0	100	0	25.70	24.59	24.67	22.70	26.00	24.96	24.86	22.89	25.00	23.87	23.99	21.97	24.30	22.86	22.46	20.63

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 5.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 5MHz	2506.0	2517.7	1	99	1	0	26.70	26.15	25.68	22.70	27.00	26.44	25.99	23.00	25.20	24.64	24.16	21.20	25.30	24.75	24.28	21.30
			100	0	25	0	22.66	22.70	22.66	22.62	23.00	22.96	22.97	22.79	21.19	21.20	21.19	21.10	21.26	21.30	21.26	21.22
	2590.5	2602.2	1	99	1	0	28.70	27.20	26.62	23.70	28.70	27.20	26.70	23.70	28.00	26.50	26.00	23.00	27.70	26.20	25.62	22.70
			100	0	25	0	26.70	25.70	25.69	23.62	26.70	24.89	24.75	22.52	26.00	24.84	24.66	22.65	25.70	24.70	24.69	22.62
	2675.0	2686.7	1	99	1	0	27.70	26.06	25.70	22.68	28.00	26.50	26.00	23.00	27.00	25.42	24.97	22.00	26.30	24.66	24.30	21.28
			100	0	25	0	25.70	24.68	24.69	22.69	26.00	24.81	24.75	22.79	25.00	23.99	23.97	21.89	24.30	23.28	23.29	21.29

OUTPUT POWER FOR LTE BAND 41 (10.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
10MHz / 20MHz	2501.5	2515.9	1	49	1	0	22.70	22.69	22.65	22.64	22.94	23.00	22.93	22.96	21.18	21.15	21.20	21.12	21.28	21.13	21.29	21.30
			50	0	100	0	22.69	22.70	22.66	22.66	23.00	22.98	22.97	22.97	21.19	21.20	21.18	21.20	21.28	21.25	21.29	21.30
	2583.6	2598.0	1	49	1	0	28.70	27.20	26.7	23.70	28.70	27.20	26.70	23.70	28.00	26.50	26.00	23.00	27.70	26.20	25.70	22.70
			50	0	100	0	26.70	25.65	25.67	23.65	26.70	24.72	24.67	23.69	26.00	24.71	24.70	22.68	25.70	24.51	24.28	22.29
	2665.6	2680.0	1	49	1	0	27.70	26.19	25.68	22.63	28.00	26.50	26.00	23.00	27.00	25.50	25.00	21.93	26.30	24.80	24.30	21.30
			50	0	100	0	25.70	24.66	24.68	22.65	26.00	25.00	24.98	22.01	25.00	23.96	23.97	21.96	24.30	22.87	22.75	20.57

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 10.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 10MHz	2506.0	2520.4	1	99	1	0	26.70	26.16	25.64	22.70	27.00	26.48	26.02	23.00	25.20	24.63	24.13	21.20	25.30	24.80	24.40	21.30
			100	0	50	0	22.68	22.70	22.69	22.65	22.97	23.00	22.97	22.92	21.18	21.20	21.20	21.18	21.21	20.83	21.30	21.08
	2588.1	2602.5	1	99	1	0	28.70	27.14	26.61	23.70	28.70	27.20	26.70	23.70	28.00	26.50	26.00	23.00	27.68	26.20	25.70	22.70
			100	0	50	0	26.70	25.68	25.69	23.65	26.70	24.79	24.71	22.52	26.00	24.86	24.75	22.67	25.70	23.76	24.43	22.33
	2670.1	2684.5	1	99	1	0	27.70	26.14	25.66	22.70	28.00	26.50	26.00	23.00	27.00	25.46	24.91	21.98	26.28	24.80	23.33	21.28
			100	0	50	0	25.70	24.67	24.69	22.64	26.00	24.71	24.68	22.53	25.00	24.00	23.99	21.97	24.30	23.30	23.25	21.30

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)															
							ANT 1				ANT 2				ANT 3				ANT 4			
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
15MHz / 15MHz	2503.5	2518.5	1	74	1	0	27.70	26.20	25.70	22.65	28.00	26.50	26.00	23.00	26.20	24.70	24.20	21.14	26.30	24.80	24.30	21.30
			75	0	75	0	22.69	22.66	22.63	22.70	22.94	22.61	22.62	22.65	21.18	21.16	21.21	21.20	21.30	21.16	21.13	21.10
	2585.5	2600.5	1	74	1	0	28.70	27.20	26.70	23.63	28.70	27.20	26.70	23.70	28.00	26.50	26.00	23.00	27.70	26.20	25.70	22.70
			75	0	75	0	26.70	25.74	25.72	23.70	26.70	24.73	24.66	22.74	26.00	24.72	24.71	22.81	25.70	24.89	24.45	22.31
	2667.5	2682.5	1	74	1	0	27.70	26.20	25.70	22.70	28.00	26.50	26.00	23.00	27.00	25.50	25.00	21.96	26.30	24.80	24.30	21.30
			75	0	75	0	25.70	24.65	24.69	22.67	26.00	24.04	24.03	22.04	25.00	23.97	23.93	22.00	24.30	22.42	22.33	20.35

OUTPUT POWER FOR LTE BAND 41 (15.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average (dBm)																
							ANT 1				ANT 2				ANT 3				ANT 4				
							QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	
15MHz / 20MHz	2503.8	2520.9	1	74	1	0	27.70	26.20	25.70	22.70	28.00	26.50	26.00	23.00	26.20	24.70	24.20	21.14	26.3	24.68	24.19	21.30	
			75	0	100	0	22.68	22.74	22.69	22.70	22.97	22.66	22.63	22.67	21.20	21.22	21.25	21.20	21.30	21.20	21.17	21.16	
		2583.3	2600.4	1	74	1	0	28.70	27.20	26.70	23.70	28.70	27.20	26.70	23.70	28.00	26.50	26.00	23.00	27.70	26.20	25.70	22.70
				75	0	100	0	26.70	25.64	25.68	23.67	26.70	24.72	24.70	22.52	26.00	24.79	24.76	22.82	25.70	24.43	23.88	21.89
	2662.9	2680.0	1	74	1	0	27.70	26.20	25.70	22.70	28.00	26.50	26.00	23.00	27.00	25.50	25.00	21.91	26.30	24.80	24.30	21.30	
			75	0	100	0	25.70	24.6	24.66	22.62	26.00	23.96	24.01	21.96	25.00	24.02	24.07	22.00	24.30	22.87	22.52	20.42	

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 15.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		PCC RB		SCC1 RB		SCC1 RB		Conducted Average (dBm)															
											ANT 1				ANT 2				ANT 3				ANT 4			
											QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz / 15MHz	2506.0	2523.1	1	99	1	0	27.70	26.13	25.61	22.67	28.00	26.50	26.00	23.00	26.20	24.61	24.18	21.19	26.30	24.80	24.30	21.30				
			100	0	75	0	22.68	22.70	22.65	22.67	22.99	22.76	22.73	22.63	21.20	21.20	21.18	21.20	21.30	20.50	20.69	20.54				
			1	99	1	0	28.70	27.15	26.61	23.68	28.70	27.20	26.70	23.70	28.00	26.50	26.00	23.00	27.70	26.20	25.70	22.70				
	2585.6	2602.7	100	0	75	0	26.70	25.69	25.69	23.67	26.70	24.82	24.69	23.67	26.00	24.86	24.80	22.69	25.70	24.36	23.54	21.43				
			1	99	1	0	27.70	26.15	25.69	22.70	28.00	26.50	26.00	23.00	27.00	25.47	24.96	21.98	26.30	24.80	24.30	21.30				
			100	0	75	0	25.70	24.66	24.70	22.63	26.00	24.02	24.04	22.90	25.00	23.99	23.99	21.95	24.3	22.56	22.84	20.42				

OUTPUT POWER FOR LTE BAND 41 (20.0MHz + 20.0MHz)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB		PCC RB		SCC1 RB		SCC1 RB		Conducted Average (dBm)															
											ANT 1				ANT 2				ANT 3				ANT 4			
											QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM
20MHz/ 20MHz	2506.0	2525.8	1	99	1	0	27.70	26.20	25.70	22.59	28.00	26.50	26.00	22.91	26.20	24.70	24.20	21.19	26.30	24.80	24.30	21.11				
			1	0	1	99	14.65	14.70	14.65	14.68	15.00	14.97	14.85	14.98	13.07	13.09	13.17	13.13	13.30	13.25	13.22	13.05				
			100	0	100	0	22.65	22.70	22.66	22.70	23.00	22.86	22.70	23.00	21.20	21.17	21.18	21.20	21.11	21.30	21.12	21.30				
	2583.1	2602.9	1	99	1	0	28.70	27.20	26.70	23.70	28.70	27.20	26.70	23.70	28.00	26.50	26.00	22.85	27.70	26.20	25.70	22.59				
			1	0	1	99	19.69	19.78	19.75	19.75	20.20	19.57	19.40	19.27	18.48	19.49	19.41	19.48	19.19	19.20	19.05	19.19				
			100	0	100	0	26.63	25.69	25.68	23.65	26.70	25.70	25.60	23.41	25.39	25.00	24.85	23.00	25.70	24.65	24.68	22.70				
	2660.2	2680.0	1	99	1	0	27.70	26.20	25.70	22.54	28.00	26.50	26.00	22.92	27.00	25.50	25.00	21.88	26.30	24.80	24.30	21.13				
			1	0	1	99	19.10	19.20	19.18	19.11	19.50	19.49	19.45	19.50	18.49	18.48	18.50	18.47	17.80	17.69	17.67	17.78				
			100	0	100	0	25.70	24.70	24.65	22.70	26.00	25.00	24.85	23.00	24.89	23.92	23.91	22.00	24.28	23.30	23.21	21.30				

9. CONDUCTED TEST RESULTS

9.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the middle channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested. Only QPSK plots are reported to show setting parameter complies with testing method/procedure.

LTE BAND 5

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 5	3MHz + 5MHz BAND QPSK	15/0 + 25/0	836.5	7.518	8.170
	3MHz + 5MHz BAND 16QAM			7.525	8.082
	5MHz + 3MHz BAND QPSK	25/0 + 15/0		7.509	8.146
	5MHz + 3MHz BAND 16QAM			7.509	8.114
	5MHz + 10MHz BAND QPSK	25/0 + 50/0		13.870	14.71
	5MHz + 10MHz BAND 16QAM			13.867	14.66
	10MHz + 5MHz BAND QPSK	50/0 + 25/0		13.869	14.73
	10MHz + 5MHz BAND 16QAM			13.872	14.74
	10MHz + 10MHz BAND QPSK	50/0 + 50/0		18.755	19.93
	10MHz + 10MHz BAND 16QAM			18.763	19.89

LTE Band 7

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 7	10MHz + 20MHz BAND QPSK	50/0 + 100/0	2535	28.176	30.28
	10MHz + 20MHz BAND 16QAM			28.201	30.51
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		28.191	30.44
	20MHz + 10MHz BAND 16QAM			28.153	30.42
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.816	31.25
	15MHz + 15MHz BAND 16QAM			28.726	31.19
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.965	35.59
	15MHz + 20MHz BAND 16QAM			32.979	35.44
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.970	35.60
	20MHz + 15MHz BAND 16QAM			32.985	35.59
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.854	41.67
	20MHz + 20MHz BAND 16QAM			37.803	40.41

LTE BAND 41

Band	Mode	RB Allocation/RB Offset	f (MHz)	99% BW (MHz)	- 26dB BW (MHz)
LTE BAND 41 (FCC)	5MHz + 20MHz BAND QPSK	25/0 + 100/0	2593	23.306	25.29
	5MHz + 20MHz BAND 16QAM			23.326	25.13
	20MHz + 5MHz BAND QPSK	100/0 + 25/0		23.392	25.00
	20MHz + 5MHz BAND 16QAM			23.273	25.11
	10MHz + 20MHz BAND QPSK	50/0 + 100/0		28.079	30.17
	10MHz + 20MHz BAND 16QAM			27.985	29.99
	20MHz + 10MHz BAND QPSK	100/0 + 50/0		27.977	29.98
	20MHz + 10MHz BAND 16QAM			28.080	30.00
	15MHz + 15MHz BAND QPSK	75/0 + 75/0		28.632	30.76
	15MHz + 15MHz BAND 16QAM			28.634	30.66
	15MHz + 20MHz BAND QPSK	75/0 + 100/0		32.850	35.23
	15MHz + 20MHz BAND 16QAM			32.805	35.35
	20MHz + 15MHz BAND QPSK	100/0 + 75/0		32.845	35.14
	20MHz + 15MHz BAND 16QAM			32.899	35.16
	20MHz + 20MHz BAND QPSK	100/0 + 100/0		37.733	39.92
	20MHz + 20MHz BAND 16QAM			37.632	40.28

9.1.1. LTE BAND 5

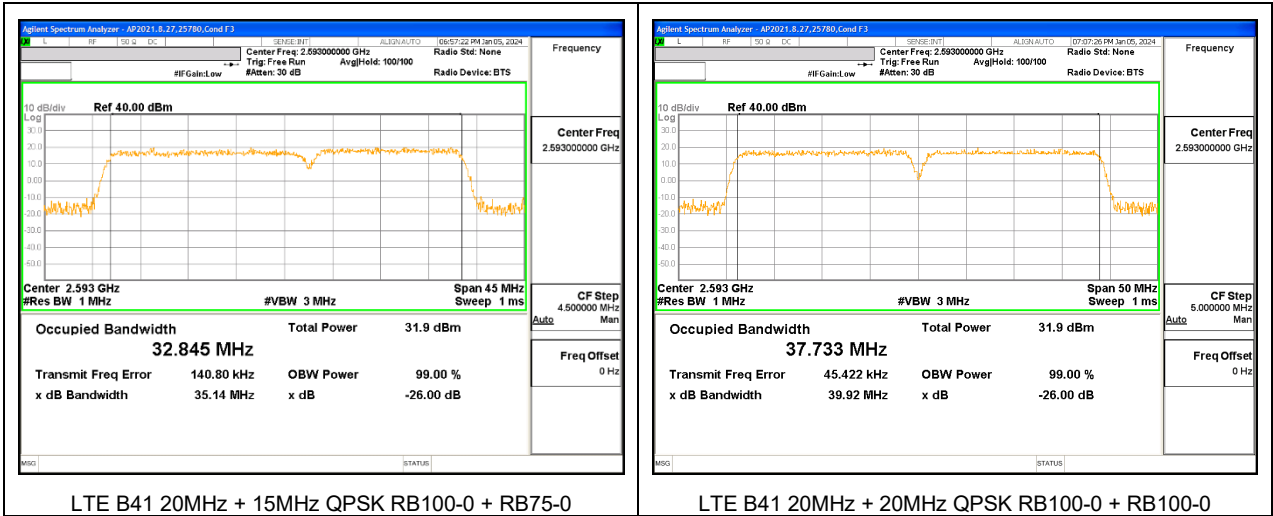


9.1.2. LTE BAND 7



9.1.3. LTE BAND 41





9.2. BAND EDGE AND EMISSION MASK

TEST PROCEDURE

The transmitter output was connected to a R&S CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

- Set the spectrum analyzer span to include the block edge frequency.
- Set a marker to point the corresponding band edge frequency in each test case.
- Set display line at -13 dBm
- Set resolution bandwidth to at least 1% of emission bandwidth.

TEST PROCEDURE FOR FCC PART 27

(m)(6) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

RESULTS

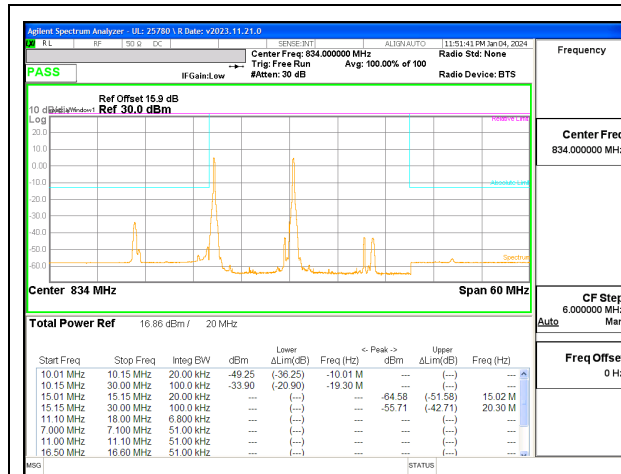
Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

9.2.1. LTE BAND 5

LIMITS

FCC: §22.917

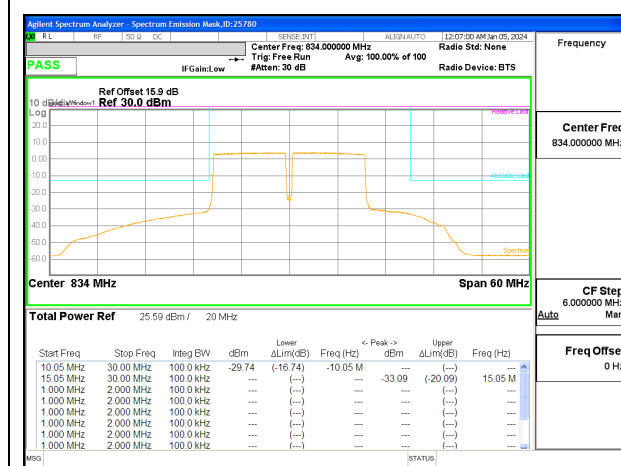
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.



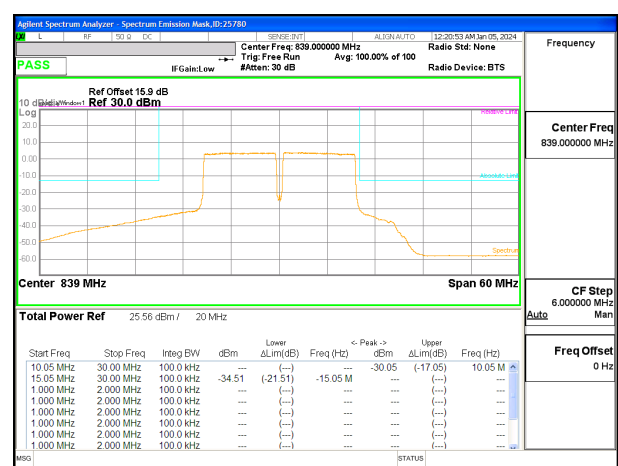
LTE B5 10MHz + 10MHz QPSK Low Ch RB1-0 + RB1-0



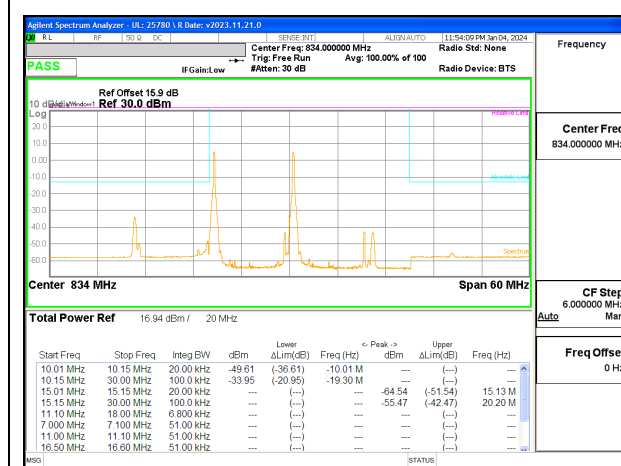
LTE B5 10MHz + 10MHz QPSK High Ch RB1-49 + RB1-49



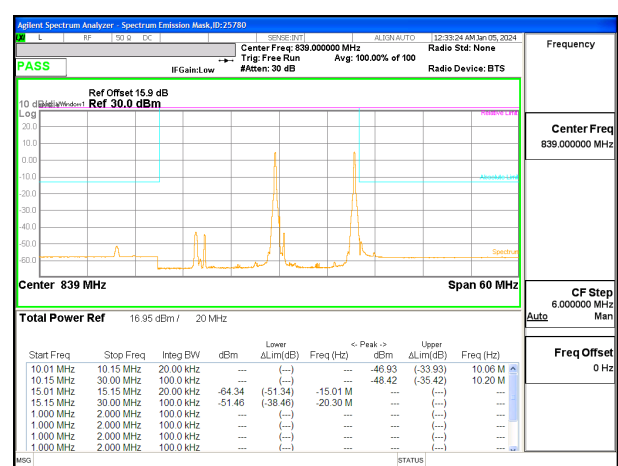
LTE B5 10MHz + 10MHz QPSK Low Ch RB50-0 + RB50-0



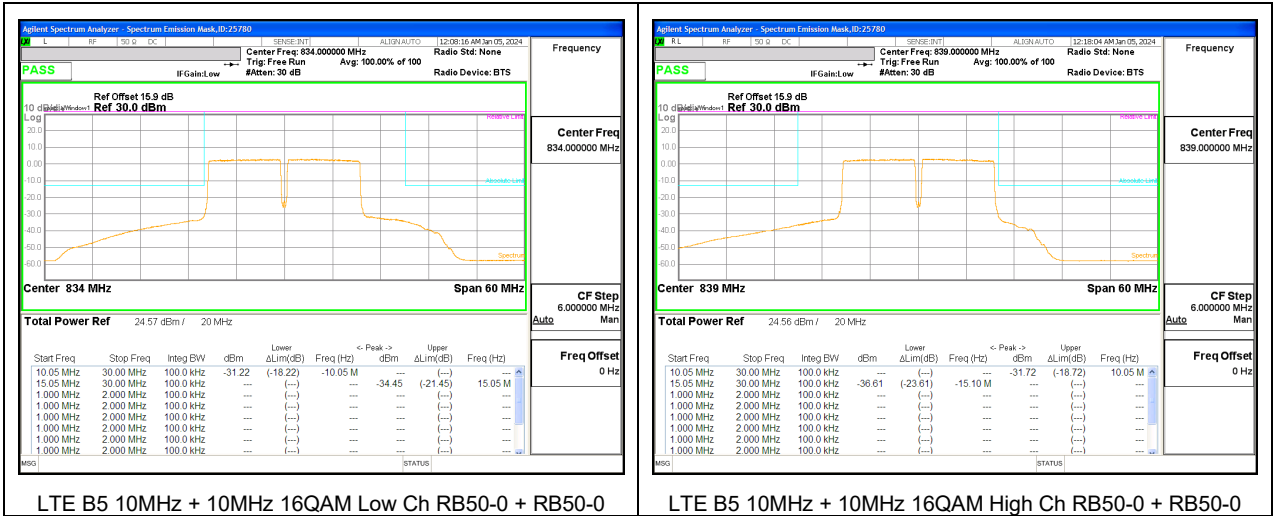
LTE B5 10MHz + 10MHz QPSK High Ch RB50-0 + RB50-0



LTE B5 10MHz + 10MHz 16QAM Low Ch RB1-0 + RB1-0



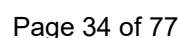
LTE B5 10MHz + 10MHz 16QAM High Ch RB1-49 + RB1-49

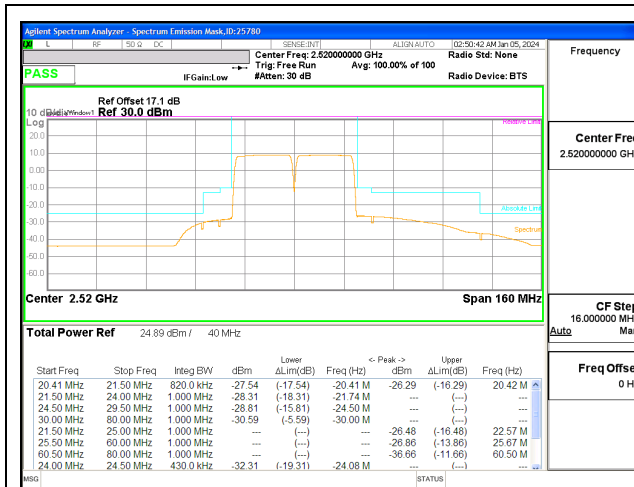


9.2.2. LTE BAND 7

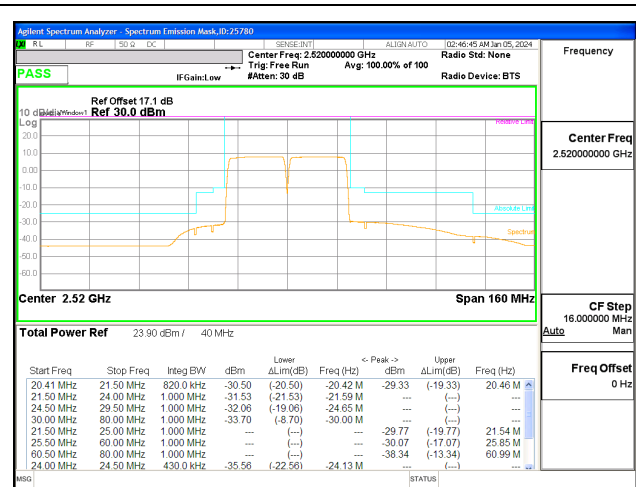
LIMITS

FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

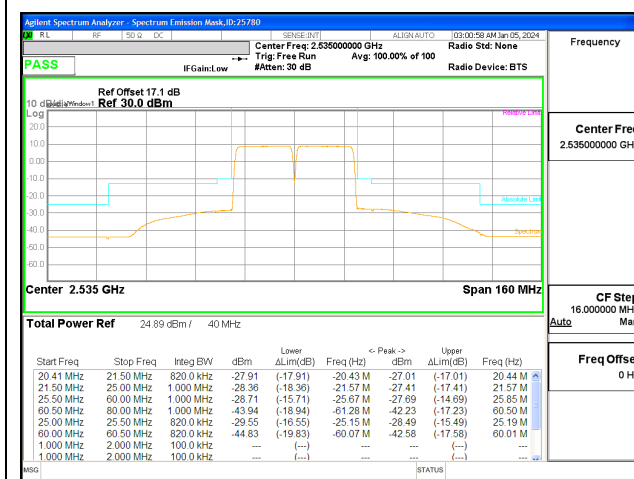




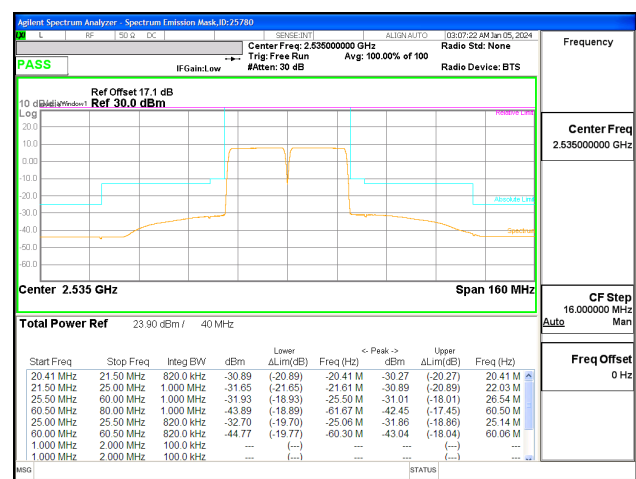
LTE B7 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



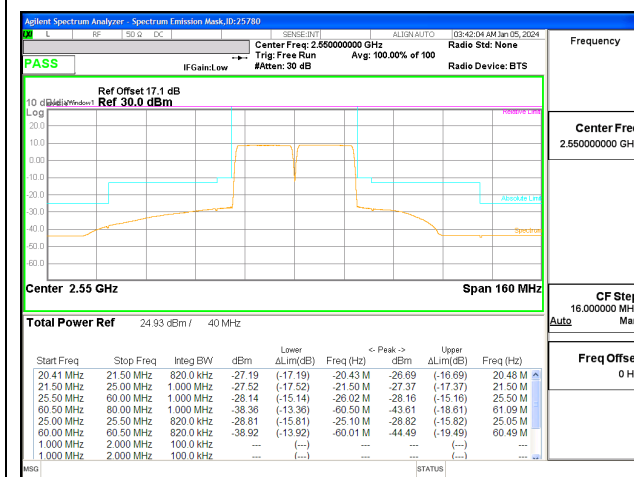
LTE B7 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



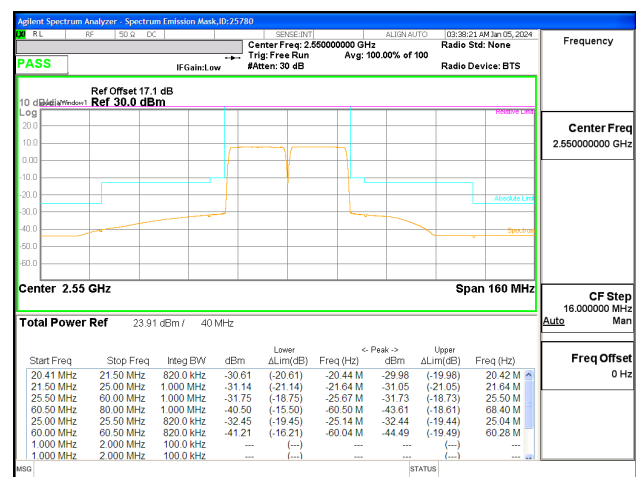
LTE B7 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B7 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0



LTE B7 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0

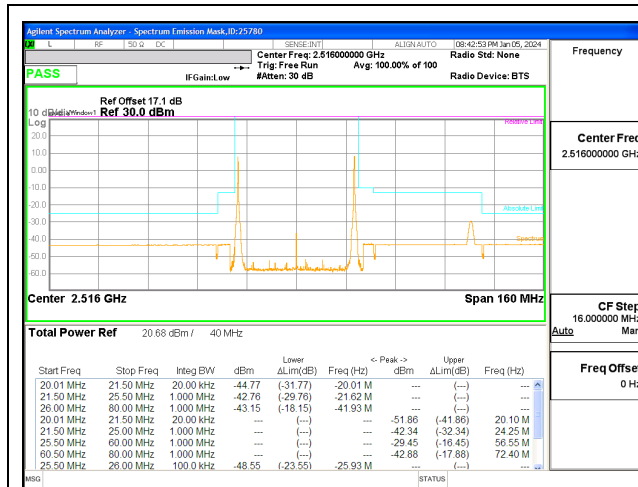


LTE B7 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

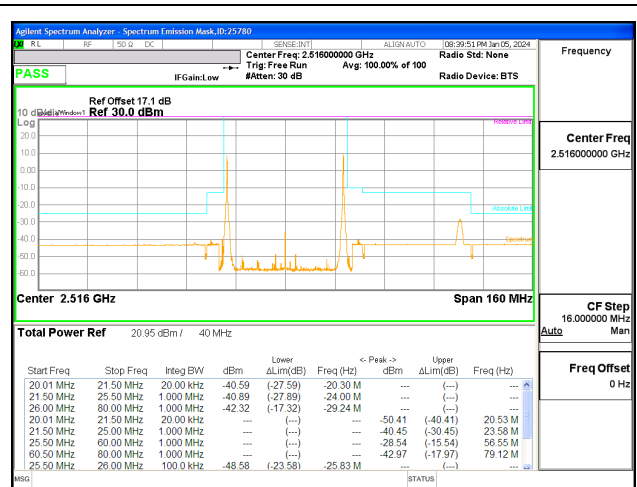
9.2.3. LTE BAND 41

LIMITS

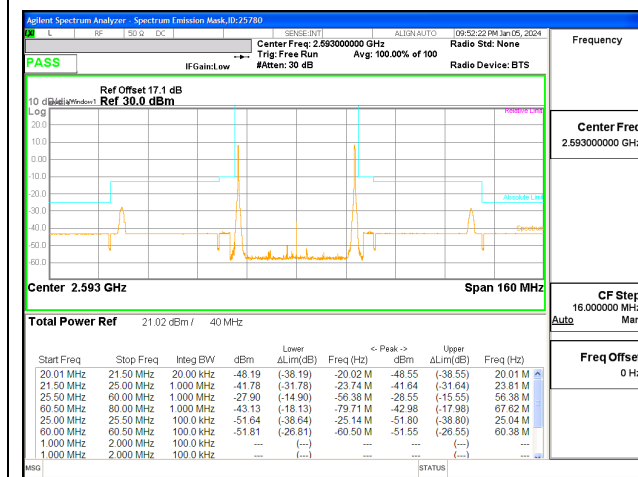
FCC: §27.53(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.



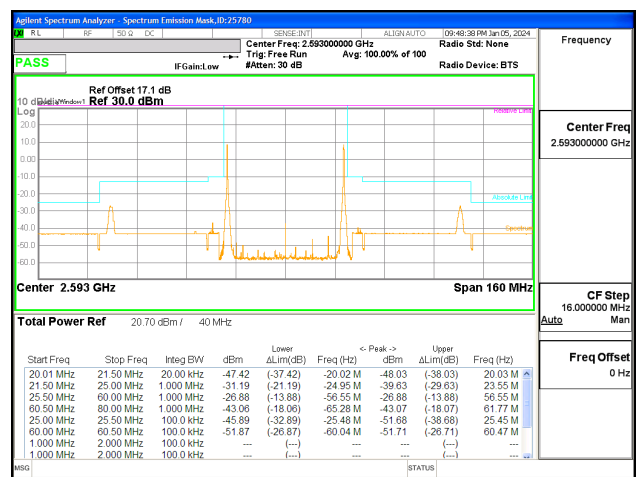
LTE B41 20MHz + 20MHz QPSK Low Ch RB1-0 + RB1-99



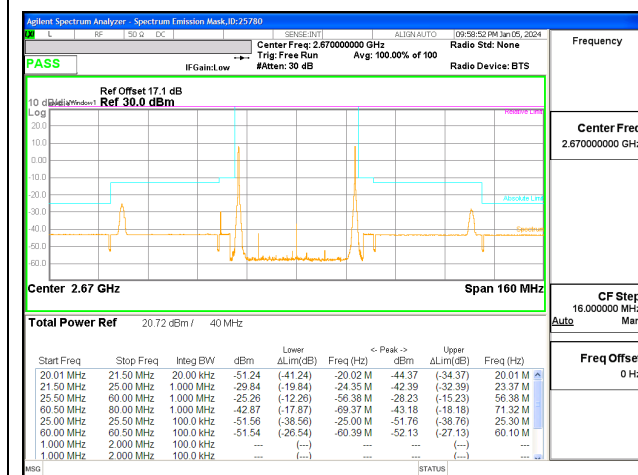
LTE B41 20MHz + 20MHz 16QAM Low Ch RB1-0 + RB1-99



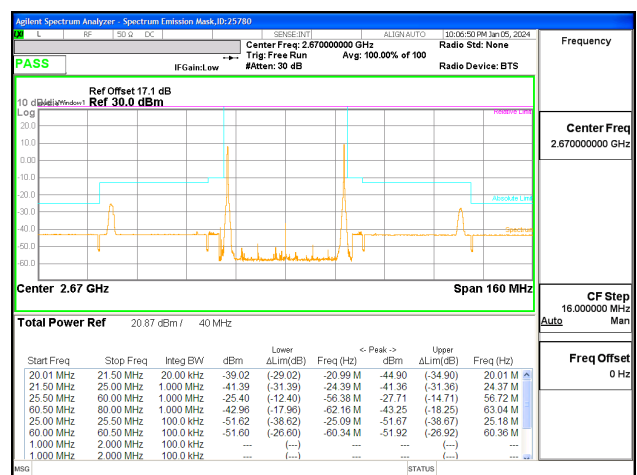
LTE B41 20MHz + 20MHz QPSK Mid Ch RB1-0 + RB1-99



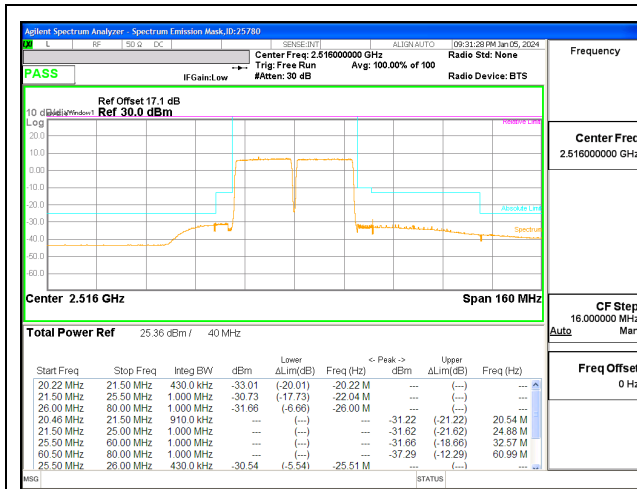
LTE B41 20MHz + 20MHz 16QAM Mid Ch RB1-0 + RB1-99



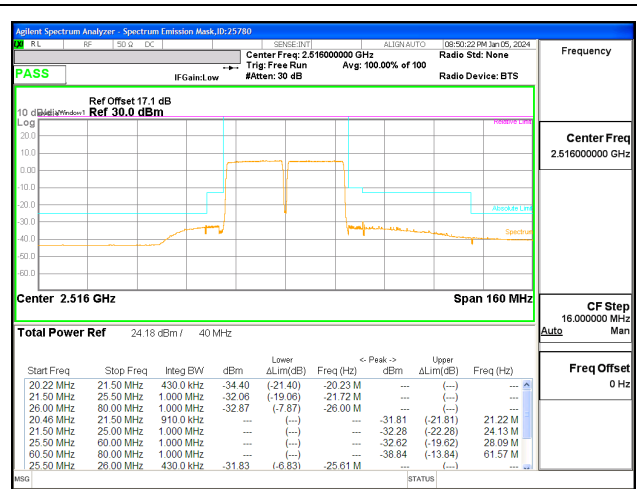
LTE B41 20MHz + 20MHz QPSK High Ch RB1-0 + RB1-99



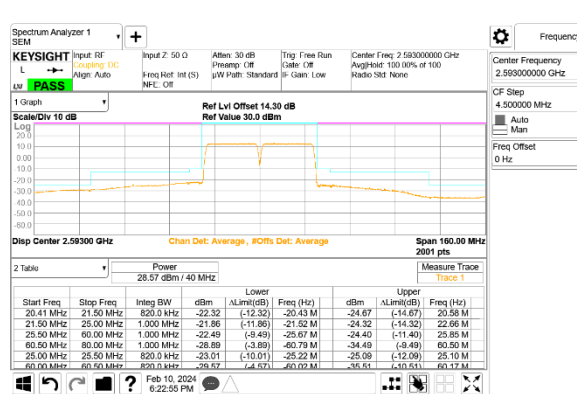
LTE B41 20MHz + 20MHz 16QAM High Ch RB1-0 + RB1-99



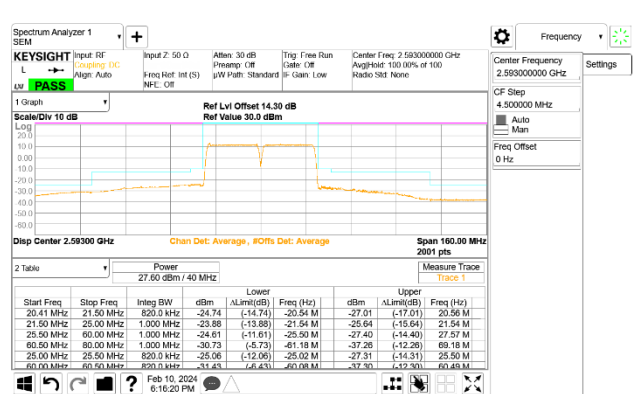
LTE B41 20MHz + 20MHz QPSK Low Ch RB100-0 + RB100-0



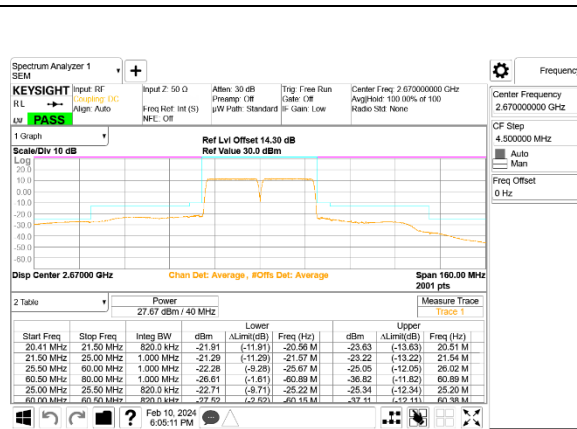
LTE B41 20MHz + 20MHz 16QAM Low Ch RB100-0 + RB100-0



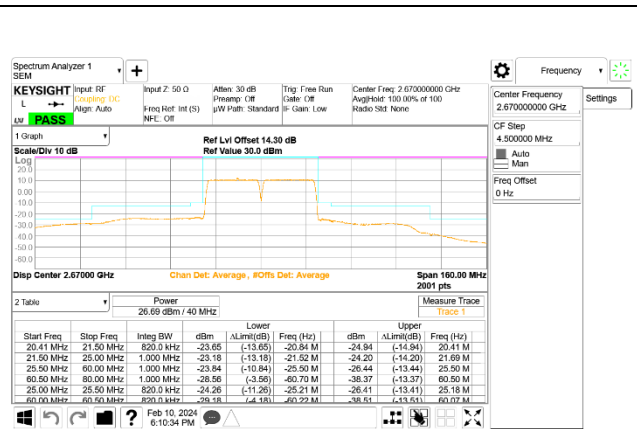
LTE B41 20MHz + 20MHz QPSK Mid Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM Mid Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz QPSK High Ch RB100-0 + RB100-0



LTE B41 20MHz + 20MHz 16QAM High Ch RB100-0 + RB100-0

9.3. OUT OF BAND EMISSIONS

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm to band 5 and -25 dBm to band 7 and 41
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.
(NOTE: Worst case set RBW/VBW to 1MHz/3MHz)

RESULTS

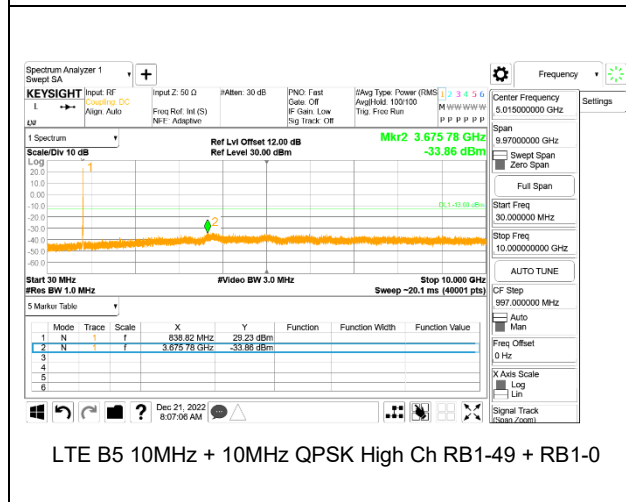
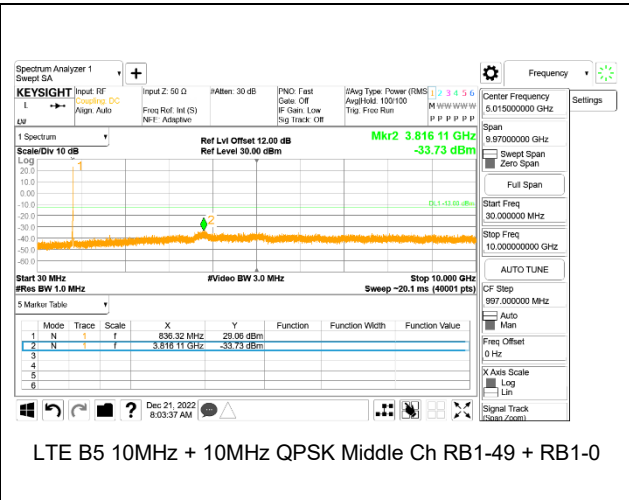
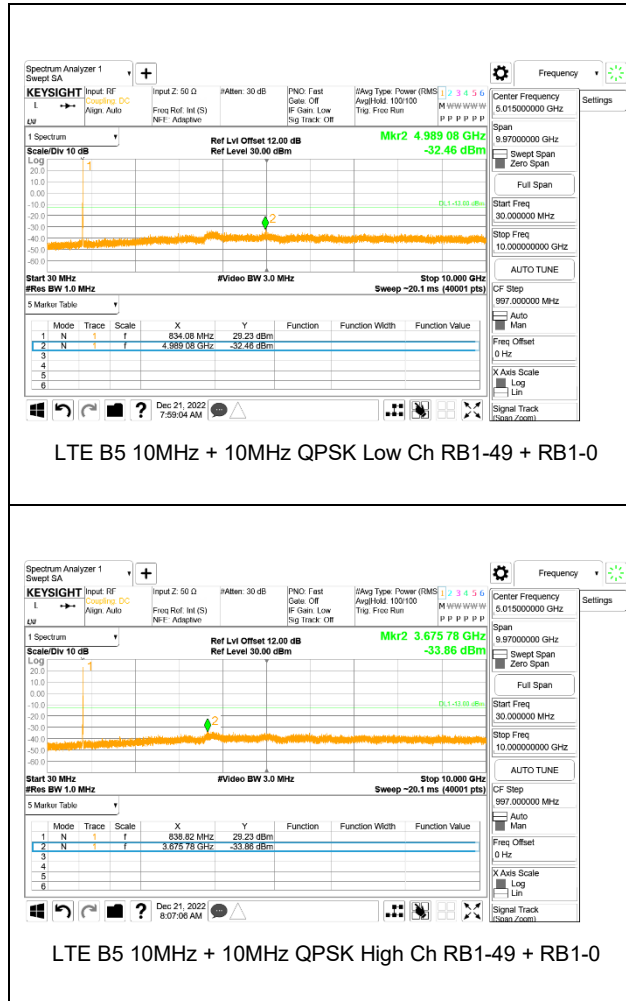
Both maximum + maximum bandwidth combinations of QPSK and 16QAM modes are tested, QPSK results are reported as worst case.

9.3.1. LTE BAND 5

LIMITS

FCC: \$22.917

The minimum permissible attenuation level of any spurious emissions is $43 + 10 \log (P)$ dB where transmitting power (P) in Watts.

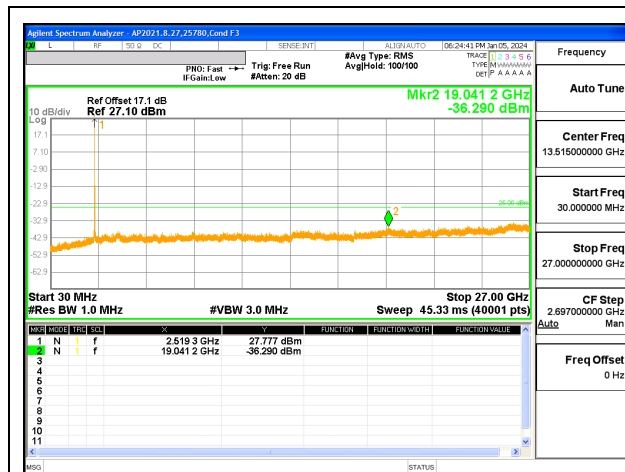


9.3.2. LTE BAND 7

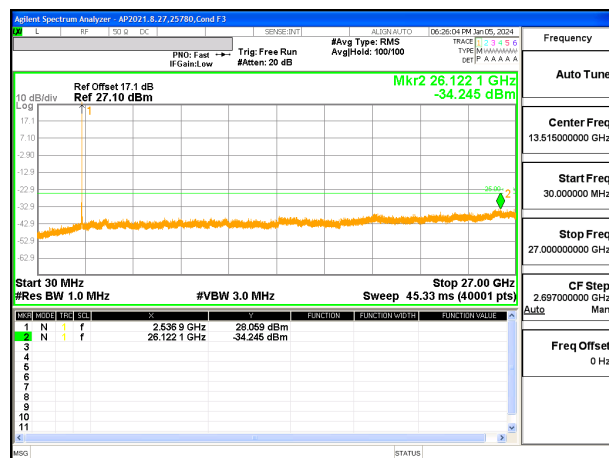
LIMITS

FCC: §27.53 (m)

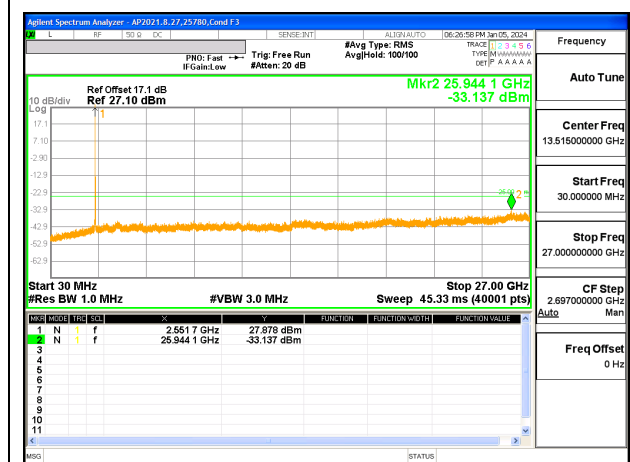
The minimum permissible attenuation level of any spurious emissions is $55 + 10 \log (P)$ dB where transmitting power (P) in Watts.



LTE B7 20MHz + 20MHz QPSK Low Ch RB1-99 + RB1-0



LTE B7 20MHz + 20MHz QPSK Middle Ch RB1-99 + RB1-0



LTE B7 20MHz + 20MHz QPSK High Ch RB1-99 + RB1-0

9.3.3. LTE BAND 41

LIMITS

FCC: §27.53 (m)
The minimum permissible attenuation level of any spurious emissions is $55 + 10 \log (P)$ dB where transmitting power (P) in Watts.



9.4. FREQUENCY STABILITY

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = -30°C to $+50^{\circ}\text{C}$
- Voltage = (85% - 115%)

Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
End Voltage, 3.2VDC.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until $+50^{\circ}\text{C}$ is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

RESULTS

See the following pages.

9.4.1. LTE BAND 5

LIMITS

FCC §22.355
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

Test Engineer ID:	12482	Test Date:	1/29/2024
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QPSK (10MHz + 10MHz BANDWIDTH)

Band	5	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		824	849		2.5	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	824.5775	848.4588			
Extreme (50°C)		824.5776	848.4588	16.7	0.020	Yes
Extreme (40°C)		824.5776	848.4588	22.1	0.026	Yes
Extreme (30°C)		824.5775	848.4588	7.5	0.009	Yes
Extreme (10°C)		824.5775	848.4588	12.1	0.015	Yes
Extreme (0°C)		824.5775	848.4588	-18.7	-0.022	Yes
Extreme (-10°C)		824.5775	848.4588	-19.2	-0.023	Yes
Extreme (-20°C)		824.5775	848.4588	-20.3	-0.024	Yes
Extreme (-30°C)		824.5775	848.4588	7.5	0.009	Yes
20°C	15%	824.5776	848.4588	19.1	0.023	Yes
	-15%	824.5776	848.4588	19.4	0.023	Yes
	End Point Voltage	824.5776	848.4588	17.7	0.021	Yes

9.4.2. LTE BAND 7

LIMITS

FCC: §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	12482	Test Date:	1/19/2024
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QPSK (20MHz + 20MHz BANDWIDTH)

Band	7	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2500	2570			
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2501.1412	2568.9016			
Extreme (50°C)		2501.1412	2568.9016	-47.0	-0.019	Yes
Extreme (40°C)		2501.1413	2568.9016	29.5	0.012	Yes
Extreme (30°C)		2501.1413	2568.9016	31.2	0.012	Yes
Extreme (10°C)		2501.1412	2568.9016	-22.9	-0.009	Yes
Extreme (0°C)		2501.1412	2568.9016	-34.4	-0.014	Yes
Extreme (-10°C)		2501.1412	2568.9016	-49.1	-0.019	Yes
Extreme (-20°C)		2501.1412	2568.9016	-51.8	-0.020	Yes
Extreme (-30°C)		2501.1412	2568.9016	-53.6	-0.021	Yes
20°C	15%	2501.1413	2568.9016	31.1	0.012	Yes
	-15%	2501.1413	2568.9016	32.1	0.013	Yes
	End Point Voltage	2501.1413	2568.9016	29.9	0.012	Yes

9.4.3. LTE BAND 41

LIMITS

FCC: §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Engineer ID:	12482	Test Date:	1/19/2024
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QPSK (20MHz + 20MHz BANDWIDTH)

Band	41	Frequency Range		Frequency Error Reading (Hz)	Limit	
Condition		2496	2690		0	
		Freq Reading @ Low End (MHz)	Freq Reading @ High End (MHz)		Frequency Stability (ppm)	Within Authorized Frequency Block (Hz)
Temperature	Voltage					
Normal (20°C)	Normal	2496.9000	2689.3144			
Extreme (50°C)		2496.9001	2689.3145	54.9	0.021	Yes
Extreme (40°C)		2496.9000	2689.3144	39.6	0.015	Yes
Extreme (30°C)		2496.9001	2689.3145	55.1	0.021	Yes
Extreme (10°C)		2496.9000	2689.3144	33.2	0.013	Yes
Extreme (0°C)		2496.9000	2689.3144	-16.6	-0.006	Yes
Extreme (-10°C)		2496.8999	2689.3143	-70.1	-0.027	Yes
Extreme (-20°C)		2496.8999	2689.3143	-74.7	-0.029	Yes
Extreme (-30°C)		2496.8999	2689.3143	-62.3	-0.024	Yes
20°C	15%	2496.9000	2689.3144	21.7	0.008	Yes
	-15%	2496.9000	2689.3144	21.5	0.008	Yes
	End Point Voltage	2496.9000	2689.3144	21.6	0.008	Yes

9.5. PEAK-TO-AVERAGE POWER RATIO

LIMIT

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

RESULT

Test was performed on Antenna 1; full resource block (FRB) for each bandwidth was used to measure as the worst case. The results from all CCDF measurements are passed with 13dB peak-to-average ratio criteria.

9.5.1. LTE BAND 5

Test Engineer ID:	25780	Test Date:	1/4/2024
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Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 5	3MHz / 5MHz	834.0	837.9	QPSK	32.81	26.95	5.86
				16QAM	32.95	26.18	6.77
	5 MHz / 3MHz	835.0	838.9	QPSK	32.77	26.96	5.81
				16QAM	32.82	26.06	6.76
	5MHz / 10MHz	831.6	838.8	QPSK	33.25	25.08	8.17
				16QAM	33.24	24.06	9.18
	10MHz / 5MHz	834.3	841.5	QPSK	33.07	25.05	8.02
				16QAM	33.10	24.06	9.04
10MHz / 10MHz	831.5	841.4	QPSK	33.33	25.10	8.23	
			16QAM	33.48	24.09	9.39	
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.2. LTE BAND 7

Test Engineer ID:	25780	Test Date:	1/4/2024
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Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 7	10MHz / 20MHz	2525.6	2540.0	QPSK	30.18	24.28	5.90
				16QAM	30.29	23.19	7.10
	20MHz / 10MHz	2530.1	2544.5	QPSK	30.16	24.26	5.90
				16QAM	30.16	23.33	6.83
	15 MHz / 15MHz	2527.5	2542.5	QPSK	30.28	24.15	6.13
				16QAM	30.23	23.31	6.92
	15MHz / 20MHz	2525.3	2542.4	QPSK	30.25	24.35	5.90
				16QAM	30.20	23.32	6.88
	20MHz / 15MHz	2527.6	2544.7	QPSK	30.20	24.32	5.88
				16QAM	30.16	23.33	6.83
	20MHz / 20MHz	2525.1	2544.9	QPSK	30.26	24.28	5.98
				16QAM	30.23	23.31	6.92
Duty Cycle Correction Factor (dB) =			0.00				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

9.5.3. LTE BAND 41

Test Engineer ID:	25780	Test Date:	1/4/2024
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Band	Bandwidth (MHz)	PCC f (MHz)	SCC1 f (MHz)	Modulation	Conducted Power (dBm)		Peak-to-Average Power Ratio (dB)
					Peak	Average	
Band 41 (FCC)	5MHz / 20MHz	2583.8	2595.5	QPSK	30.07	20.47	2.61
				16QAM	30.10	19.45	3.66
	20MHz / 5MHz	2590.5	2602.2	QPSK	30.03	20.28	2.76
				16QAM	30.03	19.49	3.55
	10MHz / 20MHz	2583.6	2598.0	QPSK	29.96	20.44	2.53
				16QAM	30.05	19.45	3.61
	20MHz / 10MHz	2588.1	2602.5	QPSK	30.00	20.46	2.55
				16QAM	30.07	19.47	3.61
	15MHz / 15MHz	2585.5	2600.5	QPSK	29.93	20.44	2.50
				16QAM	30.05	19.45	3.61
	15MHz / 20MHz	2583.3	2600.4	QPSK	29.86	20.33	2.54
				16QAM	29.98	19.4	3.59
	20MHz / 15MHz	2585.6	2602.7	QPSK	29.86	20.36	2.51
				16QAM	29.86	19.36	3.51
	20MHz / 20MHz	2583.1	2602.9	QPSK	29.86	20.32	2.55
				16QAM	29.88	10.55	12.34
Duty Cycle Correction Factor (dB) =			6.99				
Peak-to-Average Power Ratio= Peak Reading - Average Reading - Duty Cycle Correction Factor							

10. RADIATED TEST RESULTS

Radiated measurement using the Field Strength Method

Using the test configuration shown in Figure 6 below, We measure the radiated emissions directly from the EUT and convert the measured field strength or received power to ERP or EIRP, as required, for comparison to the applicable limits. As stated in 5.5.1 of ANSI C63.26-2015, the field strength measurement method using a test site validated to the requirements of ANSI C63.4 is an alternative to the substitution measurement method.

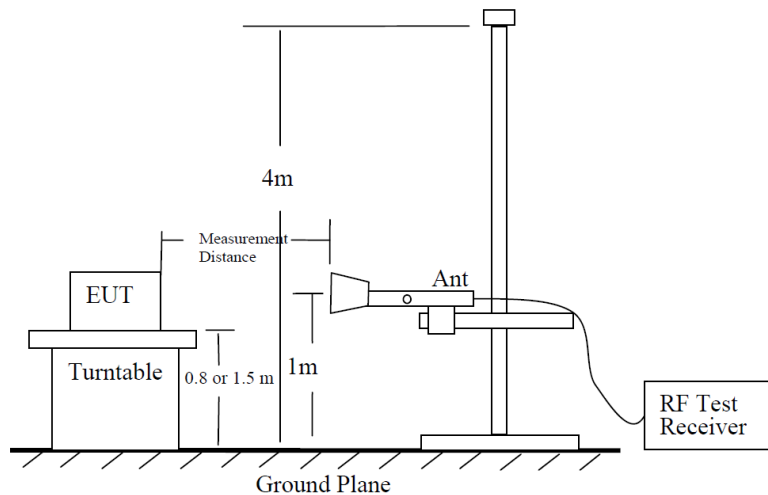


Figure 6 —Test site-up for radiated ERP and/or EIRP measurements

Radiated Power Measurement Calculation According to ANSI C63.26-2015

- a) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}.$
- b) $E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}.$
- c) $E \text{ (dB}\mu\text{V/m)} = \text{EIRP (dBm)} - 20\log(D) + 104.8$; where D is the measurement distance (in the far field region) in m.
- d) $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.

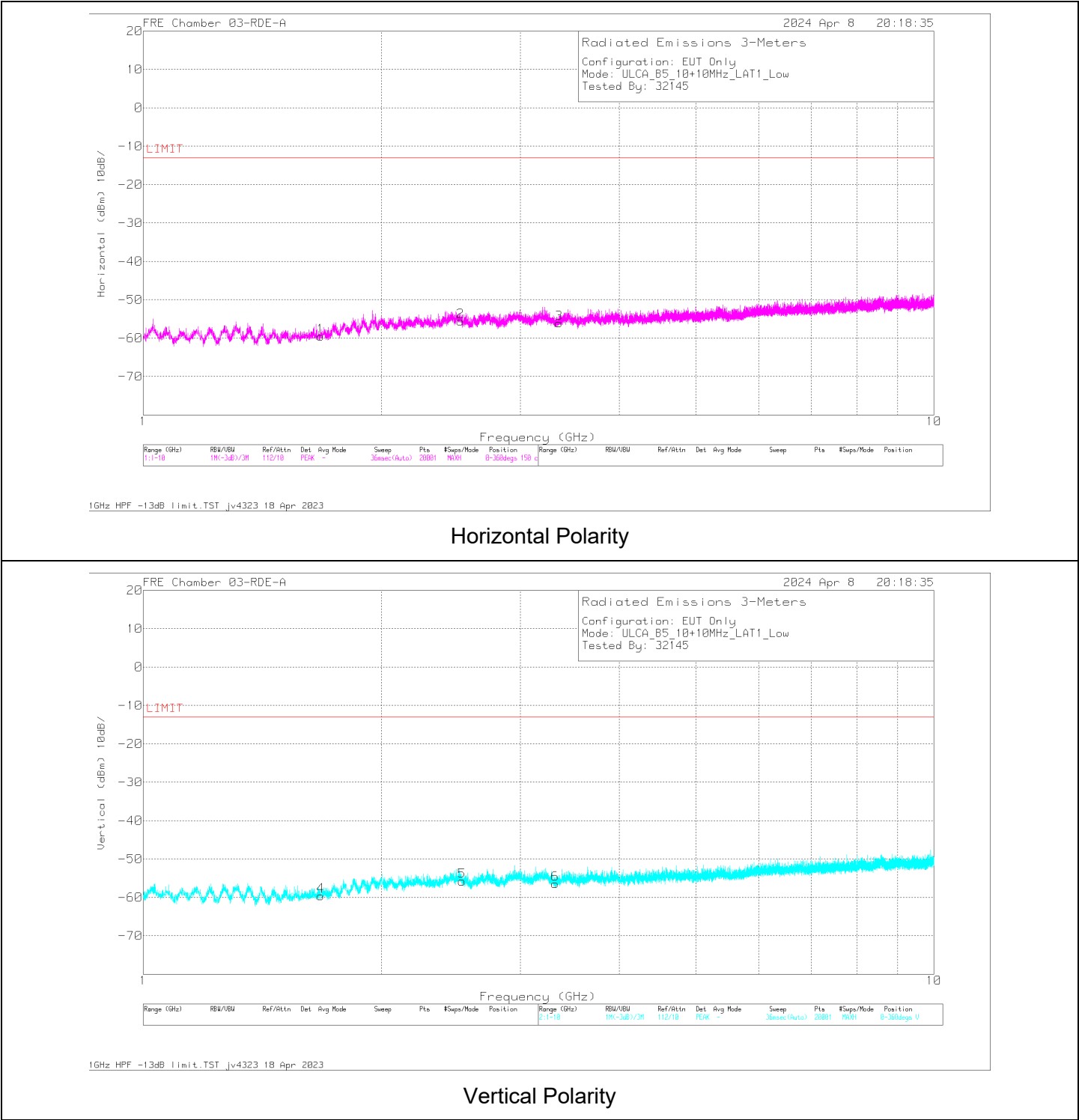
So, from d)

The measuring distance is usually at 3m, then $20 \cdot \log(3) = 9.5424$

Then, $\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 9.5424 - 104.8 = E \text{ (dB}\mu\text{V/m)} - 95.2576$

Note: Confidence check of each chamber is performed daily to see if any degradation from expected/normal reading reference data. Ambient check of each chamber is performed monthly.

Example Plot



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	226673 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
1	1.676800	56.52	Pk	28.7	-95.2	-49.57	-59.55	-13	-46.55	H
3	3.356200	53.32	Pk	32.8	-95.2	-47.03	-56.11	-13	-43.11	H
4	1.676800	56.43	Pk	28.7	-95.2	-49.57	-59.64	-13	-46.64	V
2	2.519650	55.87	Pk	32.2	-95.2	-48.5	-55.63	-13	-42.63	H
5	2.530000	55.64	Pk	32.2	-95.2	-48.41	-55.77	-13	-42.77	V
6	3.319300	52.78	Pk	32.8	-95.2	-46.86	-56.48	-13	-43.48	V

Pk - Peak detector

TEST PROCEDURE

KDB 971168 D01/D02

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz and a Video Bandwidth of 3MHz.

RESULTS

10.1. FIELD STRENGTH OF SPURIOUS RADIATION, ANT 1

10.1.1. LTE BAND 5

LIMIT

FCC: §22.917(a)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-08
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE Band 5 QPSK 10MHz + 10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	226673 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.676800	56.52	Pk	28.7	-95.2	-49.57	-59.55	-13	-46.55	H
3.356200	53.32	Pk	32.8	-95.2	-47.03	-56.11	-13	-43.11	H
1.676800	56.43	Pk	28.7	-95.2	-49.57	-59.64	-13	-46.64	V
2.519650	55.87	Pk	32.2	-95.2	-48.50	-55.63	-13	-42.63	H
2.530000	55.64	Pk	32.2	-95.2	-48.41	-55.77	-13	-42.77	V
3.319300	52.78	Pk	32.8	-95.2	-46.86	-56.48	-13	-43.48	V
Mid Channel, 831.6MHz + 841.5MHz									
1.673414	68.78	Pk	28.7	-95.2	-49.48	-47.20	-13	-34.20	H
1.673111	71.68	Pk	28.7	-95.2	-49.47	-44.29	-13	-31.29	V
2.508400	57.76	Pk	32.2	-95.2	-48.71	-53.95	-13	-40.95	V
2.509517	65.97	Pk	32.2	-95.2	-48.68	-45.71	-13	-32.71	H
3.365200	54.02	Pk	32.8	-95.2	-47.13	-55.51	-13	-42.51	V
3.379150	54.40	Pk	32.8	-95.2	-47.12	-55.12	-13	-42.12	H
High Channel, 834.1MHz + 844MHz									
1.677893	70.45	Pk	28.7	-95.2	-49.50	-45.55	-13	-32.55	H
1.677960	66.05	Pk	28.7	-95.2	-49.49	-49.94	-13	-36.94	V
2.516050	58.93	Pk	32.2	-95.2	-48.57	-52.64	-13	-39.64	V
2.516844	63.44	Pk	32.2	-95.2	-48.60	-48.16	-13	-35.16	H
3.380500	55.97	Pk	32.8	-95.2	-47.06	-53.49	-13	-40.49	H
3.394000	55.91	Pk	32.8	-95.2	-47.33	-53.82	-13	-40.82	V

10.1.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-02
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBm)	Det	22671 ACF(dB) - 3mH	155051 BRF 2495-2690MHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz										
5.007188	39.30	Pk	34.0	1	-95.2	-31.0	-51.90	-25	-26.9	V
5.027344	39.24	Pk	34.1	.5	-95.2	-30.9	-52.26	-25	-27.26	H
7.490625	35.42	Pk	35.6	.5	-95.2	-26.8	-50.48	-25	-25.48	V
7.539844	35.12	Pk	35.6	.5	-95.2	-27.0	-50.98	-25	-25.98	H
9.984375	33.67	Pk	37.2	.6	-95.2	-24.9	-48.59	-25	-23.59	V
10.045313	33.97	Pk	37.2	.7	-95.2	-25.1	-48.43	-25	-23.43	H
Mid Channel, 2525.1MHz + 2544.9MHz										
5.022656	39.10	Pk	34.1	.6	-95.2	-30.9	-52.33	-25	-27.33	V
5.042813	37.9	Pk	34.1	.5	-95.2	-31.0	-53.70	-25	-28.70	H
7.544063	37.19	Pk	35.6	.5	-95.2	-27.0	-48.92	-25	-23.92	V
7.582031	36.02	Pk	35.7	.4	-95.2	-27.2	-50.28	-25	-25.28	H
10.084219	34.53	Pk	37.2	.6	-95.2	-25.0	-47.87	-25	-22.87	V
10.085156	34.63	Pk	37.2	.6	-95.2	-25.0	-47.77	-25	-22.77	H
High Channel, 2540.2MHz + 2560MHz										
5.050781	37.79	Pk	34.1	.6	-95.2	-30.9	-53.61	-25	-28.61	V
5.059219	37.93	Pk	34.1	.7	-95.2	-30.7	-53.19	-25	-28.19	H
7.582031	35.71	Pk	35.7	.4	-95.2	-27.2	-50.59	-25	-25.59	V
7.613906	35.41	Pk	35.7	.5	-95.2	-27.2	-50.79	-25	-25.79	H
10.171406	34.74	Pk	37.3	.7	-95.2	-25.0	-47.42	-25	-22.42	V
10.171875	34.72	Pk	37.3	.7	-95.2	-24.9	-47.39	-25	-22.39	H

10.1.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-25
Test Engineer:	32990
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	200786 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.012000	53.66	Pk	34	-95.2	-47.33	-54.87	-25	-29.87	H
7.517500	52.35	Pk	35.8	-95.2	-45.24	-52.29	-25	-27.29	H
5.012000	54.06	Pk	34	-95.2	-47.33	-54.47	-25	-29.47	V
7.517500	52.31	Pk	35.8	-95.2	-45.24	-52.33	-25	-27.33	V
10.024000	52.88	Pk	37.2	-95.2	-45.87	-50.99	-25	-25.99	H
10.024000	54.22	Pk	37.2	-95.2	-45.87	-49.65	-25	-24.65	V
Mid Channel, 2583.1MHz + 2602.9MHz									
5.146500	54.82	Pk	34.2	-95.2	-47.58	-53.76	-25	-28.76	H
7.719500	52.30	Pk	35.9	-95.2	-45.19	-52.19	-25	-27.19	H
5.146500	54.92	Pk	34.2	-95.2	-47.58	-53.66	-25	-28.66	V
7.719500	51.95	Pk	35.9	-95.2	-45.19	-52.54	-25	-27.54	V
10.292500	52.97	Pk	37.4	-95.2	-44.52	-49.35	-25	-24.35	H
10.292500	52.11	Pk	37.4	-95.2	-44.52	-50.21	-25	-25.21	V
High Channel, 2660.2MHz + 2680MHz									
10.640500	52.15	Pk	37.7	-95.2	-44.97	-50.32	-25	-25.32	H
10.640500	53.63	Pk	37.7	-95.2	-44.97	-48.84	-25	-23.84	V
5.320000	54.02	Pk	34.6	-95.2	-47.32	-53.9	-25	-28.9	H
5.320000	54.07	Pk	34.6	-95.2	-47.32	-53.85	-25	-28.85	V
7.980500	51.64	Pk	36.0	-95.2	-44.55	-52.11	-25	-27.11	H
7.980500	51.24	Pk	36.0	-95.2	-44.55	-52.51	-25	-27.51	V

10.2. FIELD STRENGTH OF SPURIOUS RADIATION, ANT2

TEST PROCEDURE

KDB 971168 D01/D02

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

RESULTS

10.2.1. LTE BAND 5

LIMIT

FCC: §22.917(a)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

QPSK LTE BAND 5 (10.0MHZ + 10.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-08
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE Band 5 QPSK 10MHz + 10MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	226673 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 829MHz + 838.9MHz									
1.667841	68.23	Pk	28.6	-95.2	-49.61	-47.98	-13	-34.98	H
1.667970	68.21	Pk	28.6	-95.2	-49.60	-47.99	-13	-34.99	V
2.501650	59.39	Pk	32.2	-95.2	-48.74	-52.35	-13	-39.35	V
2.501483	71.84	Pk	32.2	-95.2	-48.75	-39.91	-13	-26.91	H
3.343600	54.61	Pk	32.8	-95.2	-46.82	-54.61	-13	-41.61	V
3.349900	55.81	Pk	32.8	-95.2	-47.11	-53.70	-13	-40.70	H
Mid Channel, 831.6MHz + 841.5MHz									
1.696150	59.58	Pk	28.9	-95.2	-49.53	-56.25	-13	-43.25	H
3.353500	55.87	Pk	32.8	-95.2	-46.87	-53.40	-13	-40.40	H
1.696600	58.47	Pk	28.9	-95.2	-49.52	-57.35	-13	-44.35	V
3.354400	55.69	Pk	32.8	-95.2	-46.88	-53.59	-13	-40.59	V
2.507950	60.13	Pk	32.2	-95.2	-48.71	-51.58	-13	-38.58	V
2.509515	71.37	Pk	32.2	-95.2	-48.68	-40.31	-13	-27.31	H
High Channel, 834.1MHz + 844MHz									
1.678119	67.58	Pk	28.7	-95.2	-49.49	-48.41	-13	-35.41	H
1.678082	70.84	Pk	28.7	-95.2	-49.49	-45.15	-13	-32.15	V
2.517373	70.51	Pk	32.2	-95.2	-48.61	-41.10	-13	-28.10	H
3.351700	55.44	Pk	32.8	-95.2	-46.94	-53.90	-13	-40.90	V
2.515600	58.52	Pk	32.2	-95.2	-48.55	-53.03	-13	-40.03	V
3.357100	55.76	Pk	32.8	-95.2	-47.12	-53.76	-13	-40.76	H

10.2.2. LTE BAND 7

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-08
Test Engineer:	32145
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBm)	Det	226673 ACF(dB) - 3mH	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz									
5.073000	56.84	Pk	34.1	-95.2	-47.70	-51.96	-25	-26.96	V
5.074000	56.36	Pk	34.1	-95.2	-47.65	-52.39	-25	-27.39	H
7.566000	54.82	Pk	35.9	-95.2	-45.5	-49.98	-25	-24.98	H
7.570500	54.76	Pk	35.9	-95.2	-45.58	-50.12	-25	-25.12	V
10.119500	55.30	Pk	37.3	-95.2	-45.71	-48.31	-25	-23.31	V
10.124000	55.37	Pk	37.3	-95.2	-45.81	-48.34	-25	-23.34	H
Mid Channel, 2525.1MHz + 2544.9MHz									
5.059000	56.38	Pk	34.0	-95.2	-47.76	-52.58	-25	-27.58	V
5.088000	56.77	Pk	34.1	-95.2	-48.03	-52.36	-25	-27.36	H
7.593500	55.21	Pk	35.9	-95.2	-45.89	-49.98	-25	-24.98	V
7.647500	54.70	Pk	35.9	-95.2	-45.71	-50.31	-25	-25.31	H
10.204000	55.52	Pk	37.3	-95.2	-45.28	-47.66	-25	-22.66	H
10.220500	54.24	Pk	37.4	-95.2	-44.82	-48.38	-25	-23.38	V
High Channel, 2540.2MHz + 2560MHz									
5.109000	57.17	Pk	34.1	-95.2	-47.79	-51.72	-25	-26.72	V
5.118500	56.58	Pk	34.2	-95.2	-47.82	-52.24	-25	-27.24	H
7.657000	55.58	Pk	35.9	-95.2	-45.61	-49.33	-25	-24.33	V
7.657500	54.05	Pk	35.9	-95.2	-45.62	-50.87	-25	-25.87	H
10.247500	54.17	Pk	37.4	-95.2	-44.51	-48.14	-25	-23.14	V
10.25600	55.15	Pk	37.4	-95.2	-44.58	-47.23	-25	-22.23	H

10.2.3. LTE BAND 41

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-25
Test Engineer:	32145
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBUV)	Det	200786 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.076000	57.34	Pk	34.1	-95.2	-47.77	-51.53	-25	-26.53	H
7.607500	55.46	Pk	35.9	-95.2	-46.00	-49.84	-25	-24.84	H
5.084500	56.70	Pk	34.1	-95.2	-47.84	-52.24	-25	-27.24	V
7.579000	53.83	Pk	35.9	-95.2	-45.71	-51.18	-25	-26.18	V
10.064000	54.49	Pk	37.2	-95.2	-45.54	-49.05	-25	-24.05	V
10.123500	54.88	Pk	37.3	-95.2	-45.81	-48.83	-25	-23.83	H
Mid Channel, 2583.1MHz + 2602.9MHz									
5.190500	55.48	Pk	34.3	-95.2	-47.29	-52.71	-25	-27.71	V
5.201500	53.35	Pk	34.3	-95.2	-47.28	-54.83	-25	-29.83	H
7.770500	52.39	Pk	35.9	-95.2	-45.16	-52.07	-25	-27.07	V
7.803500	52.54	Pk	35.9	-95.2	-45.22	-51.98	-25	-26.98	H
10.402500	52.55	Pk	37.5	-95.2	-45.22	-50.37	-25	-25.37	V
10.424500	53.35	Pk	37.5	-95.2	-45.01	-49.36	-25	-24.36	H
High Channel, 2660.2MHz + 2680MHz									
8.055500	53.88	Pk	36	-95.2	-44.81	-50.13	-25	-25.13	H
10.702500	54.05	Pk	37.7	-95.2	-44.63	-48.08	-25	-23.08	H
8.060000	53.88	Pk	36	-95.2	-44.88	-50.20	-25	-25.20	V
10.736500	54.55	Pk	37.7	-95.2	-44.58	-47.53	-25	-22.53	V
5.327000	55.41	Pk	34.6	-95.2	-47.19	-52.38	-25	-27.38	V
5.347000	56.01	Pk	34.6	-95.2	-47.43	-52.02	-25	-27.02	H

10.3. FIELD STRENGTH OF SPURIOUS RADIATION, ANT3

TEST PROCEDURE

KDB 971168 D01/D02

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

RESULTS

10.3.1. LTE BAND 7

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	04/11/2023
Test Engineer:	19226
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	05-RDE-D

Frequency (GHz)	Meter Reading (dBm)	Det	22671 ACF(dB) - 3mH	155051 BRF 2495-2690MHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz										
5.003438	37.84	Pk	34.0	1	-95.2	-31.0	-53.36	-25	-28.36	V
5.013750	38.63	Pk	34.1	.9	-95.2	-30.9	-52.42	-25	-27.42	H
7.517813	35.76	Pk	35.6	.5	-95.2	-26.9	-50.26	-25	-25.26	V
7.523906	36.53	Pk	35.6	.5	-95.2	-26.9	-49.47	-25	-24.47	H
10.027031	33.97	Pk	37.2	.6	-95.2	-24.7	-48.14	-25	-23.14	V
10.048594	34.79	Pk	37.2	.7	-95.2	-25.2	-47.67	-25	-22.67	H
Mid Channel, 2525.1MHz + 2544.9MHz										
5.024531	38.47	Pk	34.1	.5	-95.2	-30.9	-53.03	-25	-28.03	V
5.044219	38.62	Pk	34.1	.5	-95.2	-30.8	-52.78	-25	-27.78	H
7.555781	35.50	Pk	35.7	.5	-95.2	-27.1	-50.58	-25	-25.58	V
7.570781	35.48	Pk	35.7	.5	-95.2	-27.1	-50.62	-25	-25.62	H
10.087031	35.57	Pk	37.3	.6	-95.2	-25.0	-46.73	-25	-21.73	V
10.095000	34.60	Pk	37.3	.6	-95.2	-25.2	-47.90	-25	-22.90	H
High Channel, 2540.2MHz + 2560MHz										
5.077500	39.06	Pk	34.1	.6	-95.2	-31	-52.44	-25	-27.44	V
5.083125	39.23	Pk	34.1	.5	-95.2	-30.9	-52.27	-25	-27.27	H
7.620000	36.04	Pk	35.7	.4	-95.2	-27.1	-50.16	-25	-25.16	V
7.636406	35.96	Pk	35.7	.4	-95.2	-27.1	-50.20	-25	-25.20	H
10.135781	34.63	Pk	37.3	.5	-95.2	-24.8	-47.55	-25	-22.55	V
10.153594	34.36	Pk	37.3	.5	-95.2	-24.8	-47.80	-25	-22.8	H

10.3.2. LTE BAND 41

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-26
Test Engineer:	32990
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
5.012000	54.29	Pk	34.0	-95.2	-47.33	-54.24	-25	-29.24	H
7.517000	52.27	Pk	35.8	-95.2	-45.24	-52.37	-25	-27.37	H
5.012000	53.82	Pk	34.0	-95.2	-47.33	-54.71	-25	-29.71	V
7.517000	51.71	Pk	35.8	-95.2	-45.24	-52.93	-25	-27.93	V
10.023500	52.28	Pk	37.2	-95.2	-45.86	-51.58	-25	-26.58	H
10.023500	53.25	Pk	37.2	-95.2	-45.86	-50.61	-25	-25.61	V
Mid Channel, 2583.1MHz + 2602.9MHz									
7.749000	51.45	Pk	35.9	-95.2	-44.90	-52.75	-25	-27.75	H
7.749000	52.51	Pk	35.9	-95.2	-44.90	-51.69	-25	-26.69	V
5.166000	53.75	Pk	34.2	-95.2	-47.44	-54.69	-25	-29.69	H
5.166000	54.51	Pk	34.2	-95.2	-47.44	-53.93	-25	-28.93	V
10.332000	53.08	Pk	37.4	-95.2	-45.25	-49.97	-25	-24.97	H
10.332000	52.28	Pk	37.4	-95.2	-45.25	-50.77	-25	-25.77	V
High Channel, 2660.2MHz + 2680MHz									
10.640500	52.64	Pk	37.7	-95.2	-44.97	-49.83	-25	-24.83	H
10.640500	53.00	Pk	37.7	-95.2	-44.97	-49.47	-25	-24.47	V
5.320500	54.49	Pk	34.6	-95.2	-47.35	-53.46	-25	-28.46	H
5.320500	54.06	Pk	34.6	-95.2	-47.35	-53.89	-25	-28.89	V
7.980500	52.06	Pk	36.0	-95.2	-44.55	-51.69	-25	-26.69	H
7.980500	52.12	Pk	36.0	-95.2	-44.55	-51.63	-25	-26.63	V

10.4. FIELD STRENGTH OF SPURIOUS RADIATION, ANT4

TEST PROCEDURE

KDB 971168 D01/D02

All tests above 1GHz were done with a Resolution Bandwidth of 1MHz, and a Video Bandwidth of 3MHz.

RESULTS

10.4.1. LTE BAND 7

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 7 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-06-02
Test Engineer:	32934
Configuration:	EUT only
Mode	LTE Band 7 QPSK 20MHz + 20MHz
Chamber #:	01-RDE-B

Frequency (GHz)	Meter Reading (dBm)	Det	22671 ACF(dB) - 3mH	155051 BRF 2495-2690MHz (dB)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2510MHz + 2529.8MHz										
4.994531	37.95	Pk	34.0	.8	-95.2	-31.0	-53.45	-25	-28.45	V
5.014688	39.63	Pk	34.1	.8	-95.2	-30.9	-51.54	-25	-26.54	H
7.533984	35.45	Pk	35.6	.5	-95.2	-26.9	-50.55	-25	-25.55	H
7.549219	34.95	Pk	35.6	.5	-95.2	-27.0	-51.17	-25	-26.17	V
10.049063	33.84	Pk	37.2	.7	-95.2	-25.2	-48.67	-25	-23.67	H
10.073438	35.34	Pk	37.2	.7	-95.2	-25.2	-47.16	-25	-22.16	V
Mid Channel, 2525.1MHz + 2544.9MHz										
5.047500	38.18	Pk	34.1	.6	-95.2	-30.8	-53.12	-25	-28.12	V
5.058281	37.85	Pk	34.1	.7	-95.2	-30.7	-53.25	-25	-28.25	H
7.569375	35.42	Pk	35.7	.5	-95.2	-27.2	-50.74	-25	-25.74	V
7.569844	35.09	Pk	35.7	.5	-95.2	-27.1	-51.03	-25	-26.03	H
10.072031	34.74	Pk	37.2	.7	-95.2	-25.0	-47.57	-25	-22.57	V
10.109063	35.87	Pk	37.3	.5	-95.2	-25.2	-46.73	-25	-21.73	H
High Channel, 2540.2MHz + 2560MHz										
5.100469	40.51	Pk	34.1	.6	-95.2	-30.7	-50.69	-25	-25.69	H
5.100469	39.07	Pk	34.1	.6	-95.2	-30.7	-52.13	-25	-27.13	V
7.615313	36.43	Pk	35.7	.5	-95.2	-27.2	-49.77	-25	-24.77	H
7.63125	36.48	Pk	35.7	.4	-95.2	-27.0	-49.65	-25	-24.65	V
10.168125	34.6	Pk	37.3	.6	-95.2	-24.9	-47.61	-25	-22.61	H
10.178906	35.18	Pk	37.3	.7	-95.2	-25.0	-47.02	-25	-22.02	V

10.4.2. LTE BAND 41

LIMIT

FCC: §27.53 (m)

At least $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

QPSK LTE BAND 41 (20.0MHZ + 20.0MHZ BANDWIDTH)

Project #:	14982484
Date:	2024-04-26
Test Engineer:	32145
Configuration:	EUT only
Mode	Band 41 QPSK 20MHz + 20MHz
Chamber #:	03-RDE-A

Frequency (GHz)	Meter Reading (dBuV)	Det	226673 ACF (dB/m)	EIRP CF	Gain/Loss (dB)	Corrected Reading (dBm)	LIMIT	Margin (dB)	Polarity
Low Channel, 2506MHz + 2525.8MHz									
7.745500	52.17	Pk	35.9	-95.2	-44.86	-51.99	-25	-26.99	V
5.157500	54.91	Pk	34.2	-95.2	-47.60	-53.69	-25	-28.69	H
5.168500	54.69	Pk	34.2	-95.2	-47.59	-53.90	-25	-28.90	V
7.762000	51.74	Pk	35.9	-95.2	-45.04	-52.60	-25	-27.60	H
10.270500	53.04	Pk	37.4	-95.2	-44.68	-49.44	-25	-24.44	V
10.325000	51.60	Pk	37.4	-95.2	-44.94	-51.14	-25	-26.14	H
Mid Channel, 2583.1MHz + 2602.9MHz									
7.745500	52.44	Pk	35.9	-95.2	-44.86	-51.72	-25	-26.72	V
5.174000	55.54	Pk	34.2	-95.2	-47.34	-52.80	-25	-27.80	V
5.207000	53.95	Pk	34.3	-95.2	-47.33	-54.28	-25	-29.28	H
7.803500	51.45	Pk	35.9	-95.2	-45.22	-53.07	-25	-28.07	H
10.435500	53.05	Pk	37.6	-95.2	-45.18	-49.73	-25	-24.73	H
10.447000	53.53	Pk	37.6	-95.2	-45.09	-49.16	-25	-24.16	V
High Channel, 2660.2MHz + 2680MHz									
5.370500	53.47	Pk	34.6	-95.2	-47.22	-54.35	-25	-29.35	H
8.048500	53.87	Pk	36	-95.2	-44.78	-50.11	-25	-25.11	H
11.720000	50.99	Pk	38.5	-95.2	-42.26	-47.97	-25	-22.97	H
5.370500	55.41	Pk	34.6	-95.2	-47.22	-52.41	-25	-27.41	V
8.031000	52.87	Pk	36	-95.2	-44.65	-50.98	-25	-25.98	V
11.645000	51.54	Pk	38.4	-95.2	-42.90	-48.16	-25	-23.16	V

11. SETUP PHOTOS

Please refer to 149882484-EP1V1 for setup photos.

END OF REPORT